The nursing activities and interventions important when caring for children in Accident and Emergency (A&E) Departments.

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Abstract

The aim of this study was to investigate the activities and interventions important when caring for children in A&E Departments.

Background: Approximately three million children attend A&E Departments in the UK each year. However, there is an imbalance between those services provided by children's A&E Departments and mixed A&E Departments resulting in most children having to attend the latter that are staffed primarily by non-paediatric specialists. Mixed A&E Departments focus primarily on the care of adult patients, with nurses less experienced in caring for acutely unwell or injured children. Furthermore, training and education pertaining to the care of children in A&E has yet to be formalised nationally which is not helped by the lack of evidence about what activities and interventions are important when caring for children in A&E Departments.

Method: A sequential mixed method study comprising a three round Delphi survey followed by semi-structured interviews with service users and providers were conducted between July 2012 and June 2013. The purpose of using mixed methods was to identify views from clinicians and parents regarding the activities and interventions important when caring for children in A&E Departments, along with the factors that may enable or inhibit their undertaking.

Results: Twenty-six activities and interventions were identified by the Delphi panelists creating an inventory that could be utilised to support the training and education of nurses working in both mixed and children's A&E Departments. The study identified variable practice among RNs when assessing children in A&E Departments. Communication was considered the most important nursing

activity among parents and was in contrast to RNs that reported the assessment and observation as the activities of most importance. Both RNs and parents shared equal experiences of the factors that enable and inhibit the undertaking of activities and interventions such as family centred care, the availability of a skilled nursing workforce and provision of a suitable environment for children that has facilities tailored to their specific needs.

Conclusion: The findings of this research study illustrate that there is variable practice among RNs caring for children in A&E Departments that is not helped by an absence of training and education with respect to children's A&E nursing. The study provides an inventory of activities and interventions to equip managers and clinicians with information that can be used for the training and education of nurses. Further, understanding the experiences of nurses and parents will strengthen the argument for family centred care to be adopted more favorably within A&E Departments, alongside commitment to providing a skilled nursing workforce and an environment that caters specifically for children and their families. Finally, understanding the enabling and inhibiting factors will aid clinicians when developing services for children and give them confidence when doing so.

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Table of Contents

Index of Tables

Table of Figures

Definition of terms

For the purpose of this research, the following definitions were used:

AAP:	American Academy of Pediatrics
ACEP:	American College of Emergency Physicians
ANI:	Advanced Nursing Intervention
A&E:	Accident and Emergency
CEM:	College of Emergency Medicine
CEMACH:	Confidential Enquiry into Maternal and Child Health
CNS:	Clinical Nurse Specialist
CQC:	Care Quality Commission
CQI:	Clinical Quality Indicator
DH:	Department of Health
ED:	Emergency Department
EN:	Enrolled Nurse
ENCA:	Emergency Nurse Consultant Association
FCC:	Family Centred Care
FEN:	Faculty of Emergency Nursing
GP:	General Practitioner
HEI:	Higher Educational Institute
ICU:	Intensive Care Unit
IFEM:	International Federation for Emergency Medicine
IPR:	Individual Performance Review
ITU:	Intensive Therapy Unit
LOS:	Length of Stay
MIU:	Minor Injuries Unit
MTS:	Manchester Triage System
NAWCH:	National Association of the Welfare of Children in Hospital
NIC:	Nursing Intervention Classification
NICE:	National Institute for Health and Care Excellence

NMC:	Nursing and Midwifery Council
NSF:	National Service Framework
PCP:	Primary Care Practitioner
PEM:	Paediatric Emergency Medicine
PEWS:	Paediatric Early Warning Score
PHSO:	Parliamentary and Health Service Ombudsman
PSS:	Pediatric Skill Survey
RCEM:	Royal College of Emergency Medicine
RCN:	Royal College of Nursing
RCPCH:	Royal College of Paediatrics and Child Health
RN:	Registered Nurse
RN (adult):	Registered Nurse Adult Branch
RN (child):	Registered Nurse Child Branch
SIGN:	Scottish Intercollegiate Guidelines Network
TISS:	Therapeutic Intervention Scoring System
UK:	United Kingdom
UNCRC:	United Nations Convention on the Rights of the Child
UNICEF:	United Nations International Children's Emergency Fund
US:	United States
WIC:	Walk-in-Centre

CHAPTER 1: Introduction to the study

1.1 Contextual background

Accident and Emergency Departments (A&E), otherwise referred to as an Emergency Department (ED) are 'consultant led 24 hour service with full resuscitation facilities and designated accommodation for the reception of accident and emergency patients (Health and Social Care Information Centre 2015a). They specialise in the acute care of patients who present unexpectedly to hospital and manage patients with a variety of medical conditions and traumatic injuries, of which approximately 25% are children between 0- 16 years of age (Royal College of Paediatrics and Child Health (RCPCH) 2012, International Federation of Emergency Medicine (IFEM) 2012).

The Royal College of Nursing (RCN) refers to a 'child' as "any individual from birth through infancy (including neonates), childhood and adolescence, recognising the particular needs of specific ages, particularly the transition period to adulthood" (RCN 2003a, p.7). Consistent with the United Nations Convention on the Rights of the Child (UNCRC) (UNICEF 1989, p.2), the Intercollegiate Committee for Standards for Children in Emergency Care Settings (RCPCH 2012) and International Federation for Emergency Medicine (IFEM 2012) describe a child as any person under the age of eighteen years.

Three million children attended A&E Departments during 2006/7 (Institute for Innovation and Improvement 2008). More recently, attendances to emergency care facilities (A&E Departments, Walk-in-Centres (WIC), Minor Injury Units (MIU)) in England have seen an increase in attendances from 18.3 million (2012/3) to 18.5 million (2013/4). Of these, children less than 4 years of age account for 9.8% (1.8 million) attendances, while children less than 10 years of

age account for 14.5 % (2.7 million) of the yearly attendances (Health and Social Care Information Centre 2014). Therefore, in view of the continuing rise in attendances, the development of safe and effective systems of emergency care is imperative (RCPCH 2012). However, there is a lack of dedicated children's A&E Departments in the United Kingdom (UK) despite several publications identifying the need for such facilities to meet the specific needs of children (RCPCH 1999, RCPCH 2007, AAP & ACEP 2006, RCPCH & RCN 2010, RCN 2011, RCPCH 2012).

Whilst the purpose of an A&E Department is to manage those patients requiring treatment for an accident or emergency, there are several other reasons why parents attend A&E Departments with their children (Berry *et al* 2008). These include the inability to access a primary care appointment, personal preference, or referral from a primary care practitioner (Scarfone *et al* 2004, Chin *et al* 2006, Matsumura *et al* 2007). In fact, accessing an A&E Department for a non-urgent illness or injury is often due to parents being unable to distinguish a primary care complaint from a more serious condition (Berry *et al* 2008). Difficulties in accessing a General Practitioner (GP) appointment were also identified by Williams *et al* (2009), resulting in parents attending A&E for non-urgent care. In fact, the latter study surveyed parents (n=355) who presented to an A&E Department in Australia over a three month period and concluded that nearly a third of parents were unable to obtain a GP appointment. Brousseau *et al* (2011) also found that parent's inability to see a primary care physician was a leading cause for non-urgent A&E visits. The latter study interviewed parents (n=26) who attended an A&E Department in the US and found that parents were acting in the best interest of their child and associated A&E with the ability to offer reassurance and investigations not accessible in primary care.

1.2 Children are not little adults.

The specific needs of children and how they differ to those of adults has been postulated since the publication of the 'Platt Report' by Sir Harry Platt in 1956 when reporting on the welfare of children in hospital (Ministry of Health 1959). This report recommended child friendly environments, qualified children's nurses and unrestricted visiting for children in hospital. Similarly, several subsequent publications recommended fair and safe treatment for children: the Report of the Committee on Child Health Services (Department of Health and Social Security (DHSS) 1976), Action for Sick Children (1997), The Children's Act (Department of Health (DH) 1989) and Convention on the Rights of the Child (United Nation's International Children's Emergency Fund (UNICEF) 1989 Article 3) and the Department of Health (2004).

The Convention on the Rights of the Child (UNICEF 1989, p. 3) stated that those responsible for the care of children in health care should ensure the availability of suitably trained staff. As a result, responsibility was placed on A&E Departments to provide suitably trained staff to care for children because their needs were different to those of adults (The Audit Commission 1993, p.19). Following this and in response to the Public Inquiry into paediatric deaths at the Bristol Royal Infirmary (Kennedy 2001), the National Service Framework (NSF) for Children, Young People and Maternity Services' (DH 2004) was published. This document stipulated that "all children and young people who are ill, or thought to be ill or injured should have timely access to appropriate advice and to effective services which address their health, social, educational and emotional needs throughout their period of illness" (Standard 6, p.7); and that "children and young people receive high quality evidence based hospital care, developed through clinical governance and delivered in appropriate settings" (Standard 7, p.8).

While publications and reports (Table 1.1) repeatedly emphasised the distinct needs of children, the recommendations were poorly implemented. For example, a review of children's services in 2006, reported that 70% of Trusts in the UK needed to make a number of improvements. These included the need to employ appropriately trained staff with resuscitation and pain management skills (The Healthcare Commission 2007, p. 4). A subsequent review (The Healthcare Commission 2009) concluded that 74% of Trusts in the UK did not comply with ensuring that staff had the necessary life support training. Overall, Trusts in the UK were poor in providing a trained and skilled workforce for the care of children (The Healthcare Commission 2009, p. 17). Furthermore, there remains an absence of RN (child) trained staff in many A&E Departments, and facilities continue to be shared with adult patients (RCPCH & RCN 2010, RCPCH 2012).

Table 1.1 Key reports 1959-Present

Ministry of Health: The Welfare of Children in Hospital The Platt Report. London: HMSO 1959
The Report of the Committee on Child Health Services Fit for the Future. Report of the Committee on Child Health Services (Chairman: SDM Court). London: HMSO, 1976
Department of Health: Children's Act. London: HMSO, 1989
Department of Health: Welfare of children and young people in hospital. London: HMSO, 1991
The Audit Commission: Children First: A Study of Hospital Health Services. London: HMSO, 1993
Clothier C: The Allitt Inquiry: Independent inquiry relating to deaths and injuries on the children's ward at Grantham and Kesteven General Hospital during the period February to April 1991. London: HMSO, 1994
Kennedy I, Learning from Bristol: The Report of the Public Inquiry into children's heart surgery at the Bristol Royal Infirmary 1984-1995. London: HMSO, 2001
Department of Health: National Service Framework for children, young people and Maternity services. London: HMSO, 2004
Department of Health: The acutely or critically sick or injured child in the District General Hospital: A team response. London: HMSO, 2006

The Healthcare Commission: Improving Services for Children in Hospital. London: The Healthcare Commission, 2007
The Healthcare Commission: Improving Services for Children in Hospital: report of the follow-up to the 2005/06 review. London: The Healthcare Commission, 2009
Royal College Of Paediatrics and Child Health: Facing the Future-standards for paediatric services. London: RCPCH, 2011
Royal College of Nursing: Health care service standards in caring for neonates, children and young people. London: RCN, 2011

The challenge to provide safe care for children was not exclusive to the UK and in fact was also acknowledged by the American Academy of Pediatrics (AAP) (2009) who published a comparable document to that produced by the Royal College of Paediatrics and Child Health (2012) entitled 'Guidelines for Care of Children in Emergency Departments' (American Academy of Pediatrics 2009). Commonalities existed with regard to standards for best practice and ensuring a skilled workforce to manage children in A&E Departments, although hospitals had no statutory responsibility to adhere to these standards. Instead, both documents made recommendations pertaining to best practice and the need for suitably qualified nurses and physicians to care for children, in addition to the need for suitable resuscitation equipment and an environment conducive to the delivery of care to children.

Ensuring the provision of a skilled workforce in the form of RN (child) nurses has been an ongoing concern for the Royal College of Paediatrics and Child Health (RCPCH 2012, p. 23) and Royal College of Nursing (RCPCH & RCN 2010, p. 3). Both professional organisations recommended that children should be cared for by appropriately trained nurses, in facilities separate from adult patients. Further, these standards were consistent with those that evolved from the Bristol Royal Infirmary Inquiry in 2001. However, while standards relating to specific qualifications and training were incorporated into the different emergency care

reports and publications in the UK (Table 1.2), there has been little description of the practical contribution that RN (child) nurses make. Instead, authors have concentrated on describing the reason for children attending A&E Departments (Berry *et al* 2008). These included: non-urgent visits (Prince & Worth 1992, Stanley *et al* 2007), and the management of specific clinical conditions (Philips & Robson 1992, Bentley 1996, Fagan 1998, Playfor 2001, Salter & Maconochie 2005, Sharieff *et al* 2005, Cooke & Alberti 2007).

Table 1.2 Reports specific to children's A&E care

The Audit Commission: By accident or design: Improving accident and emergency services in England and Wales. London: HMSO, 1996
Royal College of Paediatrics and Child Health: Accident and emergency services for children: report of a multidisciplinary working party. London: RCPCH, 1999
The Scottish Executive: Emergency Care Framework for Children and Young People in Scotland. Scotland: The Scottish Executive, 2006
Royal College of Paediatrics and Child Health: Services for Children in Emergency Departments. Intercollegiate Committee for Services for Children in Emergency Departments. London: RCPCH, 2007
Royal College of Paediatrics and Child Health/Royal College of Nursing: Maximising Nursing Skills in Caring for Children in Emergency Departments. London: RCN 2010
Royal College of Paediatrics and Child Health: Standards for Children and Young People in Emergency Care Settings. Intercollegiate Committee for Standards for Children and Young People in Emergency Care Settings. London: RCPCH, 2012

1.3 Children's nursing and A&E care

At present, standalone specialist children's hospitals and large tertiary children's services in England account for less than 10% of hospital Trusts that provide A&E services in the UK (Shribman 2014). Furthermore, only 4% of A&E Departments within the UK are located within a separate children's hospital (IFEM 2012). In fact, a children's A&E Department may be part of, or co-located beside an adult A&E Department. Only, 20% of A&E Departments in the UK

have a purpose built paediatric facility, referred to as a Paediatric or children's A&E Department that caters solely for children and young people. The majority of A&E Departments in the UK are therefore defined as mixed, consisting of a separate waiting room and treatment area for children but located within a department that sees predominantly adult patients.

Mixed A&E Departments focus on caring for adult patients, with nurses less experienced in caring for acutely unwell or injured children (Offord 2010, RCPCH 2012). Furthermore, with patient care affected by an absence of experienced staff and lack of specialist equipment (Offord 2010); organisations have tried to improve the care for children with the publication of standards for best practice (RCPCH & RCN 2010, RCN 2011, RCPCH 2012). More recently, the Robert Francis report into the failings of Mid Staffordshire NHS Foundation Trust (The Mid Staffordshire NHS Foundation Trust Public Inquiry 2013) re-emphasised the need for training to be standardised among trainees and the establishment of national standards to achieve this. This inquiry identified some key warning signs which included the Trust's inability to deliver a safe service to children. In essence, this demonstrated that hospitals continued to be poorly compliant with standards for best practice, including A&E care for children.

Children's nursing became a distinct specialty in the UK with the opening of the first children's hospital in Great Ormond Street, London in 1852 and the nursing register in 1919. This acknowledged the different needs of children and valued the child and family within their society by managing the 'physiological, physical, social, psychological and spiritual effects of a health problem or condition and its treatment' on the child and family (RCN 2003a, p. 2).

In an effort to apply this holistic approach for children in A&E Departments the contribution made by RN (child) nurses within A&E Departments and the development of paediatric A&E Departments have been at the forefront of many influential documents over the past 20 years (Table 1.2). However, the recruitment of nurses with an RN (child) qualification remains inconsistent within A&E Departments (RCPCH & RCN 2010). For example, a review by The Healthcare Commission (2007) found mixed A&E Departments were less likely to employ RN (child) nurses compared to paediatric A&E Departments. This was despite RN (child) nurses being more skilled in resuscitation, pain management, child protection and communication in comparison to the nursing workforce within mixed A&E Departments (The Healthcare Commission 2007).

Children's A&E nursing has also being disadvantaged by lack of opportunity for pre-registration child branch students to gain experience in A&E Departments (Stammers & Chippendale 1995). This has occurred despite the RCN advocating for a need for suitable placements for students during their pre-registration educational programme to equip them with the necessary skills to care for children (RCN 2003a). The RCN (2003a) published "Children and Young People's Nursing: a philosophy of care" with the aim of promoting the distinct needs of children across all health care settings. It also emphasised the importance of developing a skilled nursing workforce and the value of family centred care for children and their families. This document included a position statement entitled 'Preparing nurses to care for children and young people' (RCN 2003b). The aim of the position statement was to inform policy makers of how best to plan educational programmes to ensure children and young people receive an 'integrated, effective and evidence-based nursing service in the future' (RCN 2003b p.1). However, institutions were not required to comply with these recommendations and were hampered in finding enough suitable placements for large cohorts of students; although some did integrate the philosophy of child health and emergency nursing to develop post-registration

modular programmes (Shavit *et al* 2006). However, these specialised paediatric post-registration programmes are not accessible to all (RCPCH & RCN 2010).

1.4 Family Centred Care

Family centered care (FCC) has become an accepted philosophy in children's nursing since the principles were advocated in 1959 following the Platt Report (Ministry of Health 1959) in an effort to provide the best care for children in hospital. Family centred care is an "approach to health care that recognises the role of the family in providing medical care; encourages collaboration between the patient, family and health care professionals; and honors individual and family strengths, cultures, traditions, and expertise" (AAP & ACEP 2006, p. 2242). However, although there is consensus that FCC is a key element of children's nursing, the concept has many interpretations ranging from the provision of child friendly facilities to collaboration between nurses and parents in an effort to try and normalise the care provided to children in hospital (Franck & Callery 2004). What is more, this model of care faces significant challenges in A&E Departments which have often been described as poor in supporting FCC (Hutchfield 1999). The reasons for this include: overcrowding caused by numbers of people waiting to be seen, difficulties developing a rapport with families and the seriousness of the child's condition which require urgent medical attention as a priority that can limit the opportunity for nurses to develop an effective partnership with parents (O'Malley *et al* 2008). In fact, there have been few studies that have explored FCC in emergency care settings. Instead, family centred care has been discussed with respect to paediatric inpatient care (Coleman *et al* 2003, Power & Franck 2008, O'Malley *et al* 2008, Hemingway & Redsell 2011, Kuo *et al* 2012). However, the suggestion that family centred care includes utilising parental expertise as a source of information to aid care delivery to children makes it applicable to all clinical settings including A&E (O'Malley *et al* 2008).

Communication is considered a central nursing activity in FCC (Kristensson–Hallström 2000). Information is required for parents to make an informed decision with respect to how they may participate in their child's care. Children equally consider communication as vital to ensuring that their viewpoints are taken into consideration and concerns taken seriously (Curtis *et al* 2004). This involves shared decision making with parents and children about the care provided to them in hospital. With respect to parental participation, two way communication is vital (Kristensson-Hallström 2000). However, health professionals must acknowledge that children and their families may be vulnerable because of the emergency admission which may affect their ability to make decisions. As a result, it is imperative that nurses are adept at getting and sharing information with parents if they are to adhere to the principles of FCC (O'Malley *et al* 2008). Further research has been suggested by Hanna and Rodger (2002) to try and determine if family involvement improves the outcome for children. However, the literature suggests that evaluating the benefits of FCC has been difficult (Franck & Callery 2004). Nonetheless, however one wishes to interpret FCC within children's nursing, it is recommended that the needs of parents who wish to participate in their child's care or not at all must be equally respected by health care professionals (Kristensson-Hallström 2000).

Inherent to the success of FCC is the ability for health care professionals to negotiate with parents. However, parents need to be given the opportunity to determine the level of care they are willing to participate in (Perkins 1993). Coyne (1995a) reported that the willingness to participate in care was variable among parents interviewed (n=18) and identified four reasons why parents chose to participate in the care of their child. This included; concerns associated with the handing over of care to strangers, a need for consistency of care, personal duty and parental experience of hospitalisation as a child themselves. Nonetheless, conflict can sometimes arise when there is misunderstanding between parents and healthcare professionals, therefore compromising

opportunities for FCC to be adopted. For example, nurses are often comfortable with parents undertaking basic activities such as bathing and feeding, however they are less forthcoming with relinquishing technical tasks (Blowers & Morgan 2000). Evans (1994) did report that parents were often keen to undertake technical activities once they have become accustomed to their child's illness. Considering all of the above, FCC can contribute to a child's experience in an A&E Department by encouraging collaborate working between clinicians and families.

1.5 Recommendations specific to A&E Departments

Several publications have made recommendations for A&E Departments responsible for caring for sick and injured children (RCPCH & RCN 2010, RCN 2011, RCPCH 2012). These include the Royal College of Nursing's publication "Health Care Standards in Caring for Neonates, Children and Young People" (2011, p. 23-24) and the Royal College of Paediatrics and Child Health Intercollegiate Committee for the Care of Children in Emergency Departments "Standards for Children and Young People in Emergency Care Settings" (RCPCH 2012). Both publications recommended that children's A&E Departments should be staffed by nurses who uphold the title of registered nurse (child) (RN (child)) with the Nursing and Midwifery Council (UK); while, mixed A&E departments should have a minimum of one RN (child) qualified nurse or a nurse with an equivalent qualification available on each shift.

In fact, in an attempt to ensure RNs had the necessary skills to care for children in A&E Departments, competency documents were produced by professional organisations in Scotland and England (Table 1.3). The Emergency Care Framework (Scottish Executive 2006) was produced by an advisory group and was published as a commitment to improving the quality of care for children and young people in Scotland in response to a report entitled 'Delivery for Health' in

2005 by the Scottish Executive. The framework acknowledged that most children and young people received emergency care in adult A&E Departments and therefore wanted to ensure that staff had the necessary skills and competencies to be able to recognise and treat children and young people more effectively. Similarly, a joint publication by the RCPCH and RCN (2010) entitled 'Maximising Nursing Skills in Caring for Children in Emergency Departments' was derived from concerns among professionals to ensure that both adult and children's trained nurses were adequately equipped with the appropriate skills and knowledge to care for children and young people in A&E Departments. Central to this document was a set of competencies for nurses caring for children in A&E Departments, although these were the opinion of a select group of individuals from within both organisations.

Standards for children in emergency care settings (2012) was the third and most recent publication by the Intercollegiate Committee for standards for children and young people in emergency care settings pertaining to A&E care for children. This document included a set of competencies for nurses caring for children in A&E Departments. The Intercollegiate Committee sits within the RCPCH and has been instrumental in delivering guidance and standards' pertaining to children and young people's urgent and emergency care services. The most recent publication refers to 'standards' throughout the document in an effort to standardise the care in all emergency care settings that see children, namely, minor injury units, walk-in-centres, pharmacies as well as emergency departments. This document was produced based on the professional opinion of intercollegiate committee members of what they believed were core competencies when caring for children in A&E Departments and not in response to any empirical studies or evidence. The core competencies from these sources are compared in table 1.3 below.

Table 1.3 Core competencies for nurses caring for children in A&E Departments.

Documents	Competencies
The Scottish Executive (2006) Emergency Care Framework for Children and Young People in Scotland.	1. Recognition of illness, injury, pain & vulnerability 2. Effective communication 3. Understands rights of child/young person 4. Basic Paediatric life Support 5. Simple Pain Relief 6. First aid 7. Preparation for transfer 8. Provision of child/family centred care 9. Treatment of wounds 10. Intravenous access 11. Intravenous drug administration
RCPCH & RCN (2010) Maximising Nursing Skills in Caring for Children in Emergency Departments.	1. Assessment, recognition, prioritisation evaluation of serious illness and injury. 2. Accurate recording and documentation of clinical observations. 3. Effective communication and listening skills 4. Understand the rights of the child and consent 5. Paediatric Basic Life Support 6. Administer intravenous medication 7. Assess pain and administer analgesia 8. Treat simple wounds and plaster application 9. Safeguarding action and management.
RCPCH (2012) Standards for Children and Young People in Emergency Care Settings.	1.The physiological & psychological developmental of children and young people 2. The assessment, measuring and monitoring of vital signs 3. Pain assessment and management 4. Medicines management 5. Managing the sick and injured child/young person 6. Safeguarding children and young people

1.6 Challenges for A&E Departments caring for children

There are currently no statutory requirements to which National Health Service (NHS) Trusts must adhere to with respect to providing separate facilities for children in A&E Departments. For example, the most recent publication from the RCPCH outlining the standards for children and young people in emergency care settings revisited the recommendation from the previous two editions (RCPCH 1999, 2007) following concerns that A&E Departments failed to comply with the initial recommendations (RCPCH 1999). The report acknowledged the numbers of RN (child) nurses were insufficient to staff A&E Departments and as a result a list of competences for RN (child) and registered adult (RN (adult)) nurses was produced (RCPCH 2012, p. 23).

In mixed A&E Departments, the care of children falls primarily to RN (adult) trained staff (RCPCH & RCN 2010, RCPCH 2012, IFEM 2012). Within the bounds of professional responsibility, the Nursing and Midwifery Council UK (NMC) expects all care to be delivered under the supervision of a RN (child) nurse. It is also expected that supervision continues until competence has been achieved (RCPCH 2012). Further, it is anticipated that supervision is only removed when skills are attained that enable the nurse to practice safely in paediatric care (NMC 2002). In essence, this means that mixed A&E Departments have a responsibility to ensure that RN (adult) nurses caring for children have the necessary supervision from a RN (child) nurse until competence is achieved.

With an absence of RN (child) nurses in A&E Departments in the UK (RCPCH 2012), there is a need for RN (adult) nurses to be competent in caring for children in A&E Departments. However, there is currently no comprehensive list of skills available that can be used by RNs in A&E Departments to attain

competence in the care of children following an acute illness or traumatic injury. Previous publications (Table 1.3) have not been consistent in identifying what activities and interventions are important when caring for children in A&E Departments, whilst Hall (2001) only identified those skills associated with the care of children following trauma. Furthermore, the advisory committees for both the RCPCH and The Scottish Executive concentrated on how services should be delivered with respect to children's emergency care and only identified a limited number of core competencies. The latter competencies were also exclusively the opinion from a select group of clinicians with no reported participation from service users. Therefore, this research sets out to explore the activities and interventions associated with caring for children within A&E Departments for the purpose of defining an inventory of competencies that can be used by RNs caring for children in A&E following a traumatic injury or illness.

This chapter has provided the contextual background and purpose for undertaking this study, placing it within the context of A&E nursing. Chapter Two contains a scoping review of the literature to establish what nursing activities and interventions are needed within a variety of clinical settings. Chapter Three presents the research aims and objectives in addition to the methods chosen for this research study. The study findings are reported in Chapter Four, followed by a critical discussion of the findings in Chapter Five. This chapter also includes the implications of the study for children's A&E nursing. Chapter Six presents the study conclusions and implications of the study findings for future practice with respect to the care of children seeking emergency care.

CHAPTER 2: Reviewing the Literature

2.1 Introduction

There is currently a disproportionate small number of children's A&E Departments in the UK when compared to mixed A&E Departments (Shribman 2014). Unlike children's A&E Departments that are dedicated to the care of children and staffed by registered children's nurses (RN (child)), mixed A&E Departments provide emergency care to both adult and children (IFEM 2012) and are staffed primarily by registered adult nurses (RN (adult)) with variable experience and competence in delivering care to children (RCPCH & RCN 2010, RCPCH 2012). It has also been recognised that traditional training in children's nursing does not currently equip RN (child) nurses with emergency care skills, resulting in RNs ill-equipped to meet the needs of children and their families in A&E Departments (RCPCH & RCN 2010). Considering these issues, there is a need to ensure that RNs working in both children's and mixed A&E Departments are familiar with the activities and interventions associated with the delivery of emergency care to children and their families. However, to do this, the specific activities and interventions and their importance when delivering care to children and their families must be defined. A review of the literature was used to confirm if information pertaining to the activities and interventions associated with the care of children in A&E Departments currently exists.

2.2 Scoping review

The aim of the scoping review was to detect all research studies relating to activities and interventions associated with the care of children in A&E Departments. The term "A&E Department" should be taken to include "emergency department (ED)" and vice versa as both continue to be used interchangeably throughout the literature. In addition, reference made to "mixed A&E Departments" will include those departments who receive children, young

people and adults as part of their daily attendance for emergency care. Paediatric or children's A&E Departments are exclusive to children and young people seeking emergency care and treatment.

As this was a scoping review, the methodological framework described by Arksey and O'Malley (2005) was utilised as this allowed the researcher the opportunity to explore the evidence available relating to a specific area of interest (Davis *et al* 2009), whilst permitting examination of the broader topics surrounding the area of interest which may also incorporate a variety of different study designs.

2.3 Aims

The aim of this scoping review was to evaluate what is known about the activities and interventions important when caring for children in A&E Departments, in preference to assessing the quality of those studies included (Arksey & O'Malley 2005). This would be achieved by:

- Collecting and collating available literature associated with nursing activities and interventions in A&E Departments.
- Clarifying what is known about the subject and defining key themes that emerge from the available evidence.

2.4 Search strategy

A review of the literature exploring the role of the nurse undertaking activities and interventions associated with different healthcare settings including A&E was conducted using the methodological framework described by Arksey and O'Malley (2005). The framework commences with identifying the research question, followed by identifying relevant studies, study selection, charting the data and finally collating, summarising and assembling the findings. Central to the scope was the utilisation of 5 electronic databases: CINAHL (Cumulative

Index to Nursing and Allied Health Literature); BNI (British Nursing Index); MEDLINE, EMBASE and Cochrane database (January 1991 – June 2015). The search commenced from January 1991 as this coincided with the publication of several prominent documents (National Association for the Welfare of Children in Hospital (NAWCH) 1991, DH 1991a, DH 1991b) which revisited the needs of children since the initial child health recommendations in the Platt report (Ministry of Health1959). The year 1991 was also followed by several influential documents relating specifically to children's A&E care (The Audit Commission 1996, RCPCH 1999).

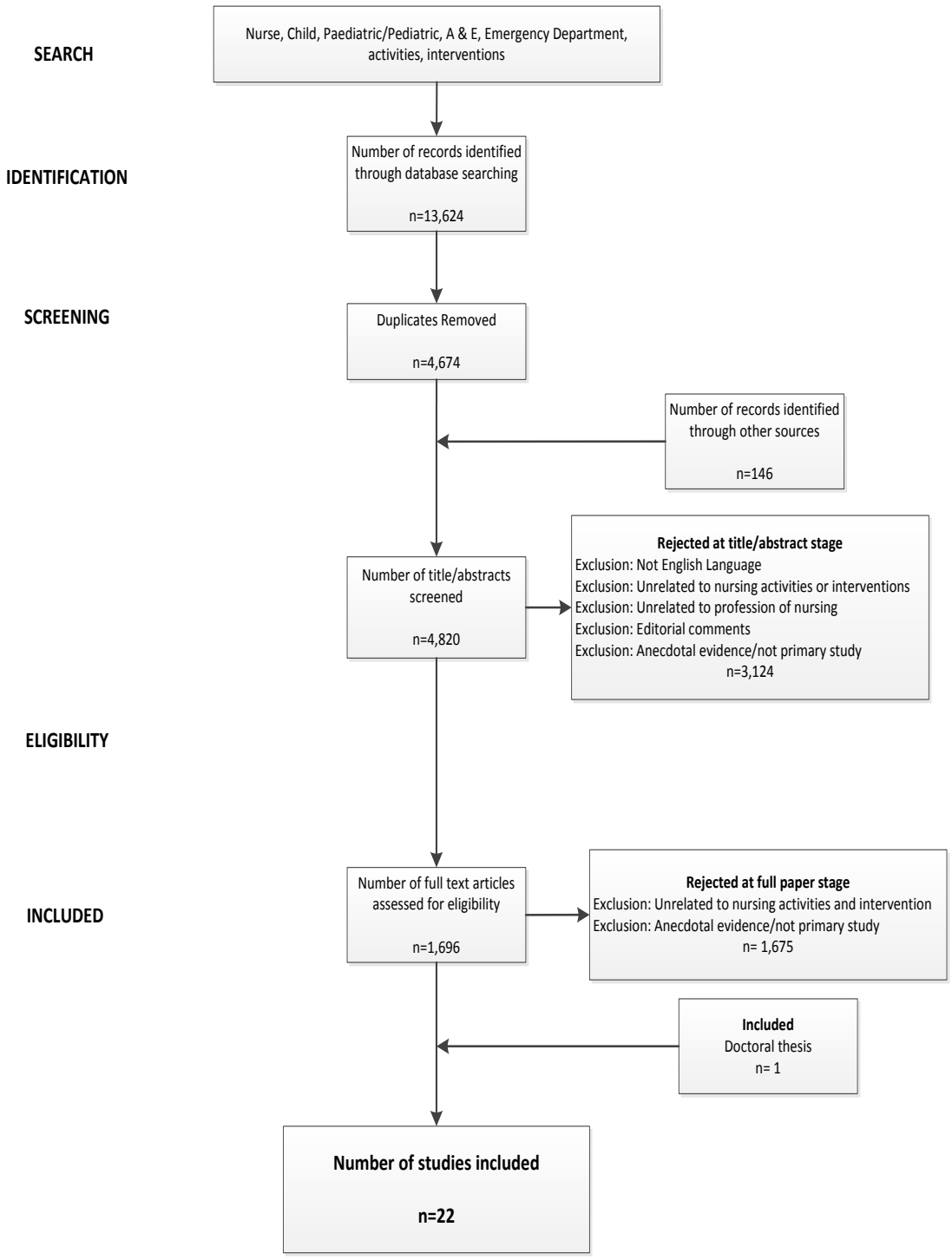
Different databases were selected because they contained the largest and most comprehensive indexing of nursing literature and were recommended by the United States (US) Agency for Healthcare Research and Quality, along with the United Kingdom (UK) Centre for Reviews and Dissemination (CRD) and Cochrane Collaboration (Eden *et al* 2011). The scoping review involved a structured search utilising MeSH (Medical Subject Headings) terms and free text pertaining to children's A&E nursing. Key search terms such as 'nurse, child, paediatric/pediatric, A&E, emergency department, activities, interventions' were combined using Boolean combinations to search the selected databases. Other descriptors such as 'tasks', 'duties', 'roles' and 'skills' were also utilised during the search. This was followed by hand searching the reference lists of all relevant papers for further studies. Additional primary sources were identified through the reference list of those articles selected. The titles and abstracts of all published and unpublished studies identified between January 1991 and June 2015 were assessed. It was also deemed important to consider those publications not in English; however, due to time constraints and cost, only publications available in English language were included.

The title and abstracts of 4,820 papers were examined to determine their suitability for inclusion. A total of 1,675 were rejected at full paper stage because they were either unrelated to nursing activities and interventions or were anecdotal evidence or not a primary study. The remaining papers were then sifted for assurance that those related to nursing activities and/or interventions were pooled. Figure 2.1 gives a flow diagram of the search strategy.

The information from 22 studies was charted in a matrix and each paper was reported under the headings detailing the study aims, research design/sample size, study site, data collection instrument, findings and comments. The articles pertaining to A&E nursing were input first in alphabetical order (Table 2.2), then children's nursing (Table 2.3), general nursing (Table 2.4) and lastly specialist nursing roles (Table 2.5).

Whilst the aim of the scoping review was to identify activities and interventions associated with the care of children, the search produced only five studies pertaining to children's nursing, two of which were specific to children's A&E nursing (Table 2.1). As a result, the scoping review was extended to include general nursing studies that contained activities and interventions in the title or abstract on the premise that the findings from these studies may be transferable to the care of children. This resulted in the inclusion of an additional ten studies specific to A&E nursing and seven studies that were primarily focused on the care of adult patients on inpatient wards and were categorised as general nursing studies. There were three studies that investigated specialist nursing roles.

Figure 2.1 Search strategy



2.5 Outcome from scoping review

Twenty two studies were selected for final analysis from a total of 13, 624 that were identified from the initial search, originating from Europe (n=9), North America (n=10), Australia (n=2), and Asia (n=1). The studies were published between 1993 and 2013 and there was one unpublished doctoral thesis. Only two studies originated from the UK.

2.5.1 Themes

The focus of the studies concentrated around four main themes with respect to the aims of the studies:

- A&E nursing
- Children's nursing
- General nursing
- Specialist nursing roles

These themes will be discussed and are listed against the pertinent papers in Table 2.1.

Table 2.1 Matrix of principle themes within studies

Author	A & E Nursing	Children's Nursing	General Nursing*	Specialist Nursing Roles
Abbey et al. (2011)			x	
Adams Scott (1999)				x
Adler & Icenhour (1993)	x			
Andersson et al (2012)	x			
Chaboyer et al. (2008)			x	
Cole & Ramirez (2000)	x			x
Craven & Froman (1993)	x	x		
Furåker (2009)			x	
Hall (2001)	x	x		
Hendrich et al. (2008)			x	
Hobgood et al. (2005)	x			
Holaday et al (1999)		x		
Hollingsworth et al (1998)	x			
Kaya et al. (2011)			x	
McCarthy et al (2013)	x			
McCloskey et al. (1998)			x	
Moore & Beckwitt (2006)		x		
Norton et al. (2012)				x
Oflaz & Vural (2010)			x	
Pelander & Leino-Kilpi (2003)		x		
Rodrigues (2004)	x			
Stauber (2013)	x			
Total	**10**	**5**	**7**	**3**

* Non-A&E studies investigating adult nursing

2.6 Activities and interventions in A&E Departments

When considering A&E nursing, ten studies (Table 2.2) investigated nursing activities and interventions (Adler & Icenhour 1993, Craven & Froman 1993, Hollingsworth *et al* 1998, Cole & Ramirez 2000, Hall 2001, Rodrigues 2004, Hobgood *et al* 2005, Andersson *et al* 2012, McCarthy *et al* 2013, Stauber 2013). Firstly, Adler & Icenhour (1993) reported activities and interventions using non-participant observation and a convenience sample of RNs (n=11). The data collection tool used included 41 activities specific to A&E nursing and were categorised into four main headings; (1) practice (2) assessment (3) education,

and (4) research. The study concluded that the activities associated with patient "assessment" were the most frequently observed activities and included; verbal communication (110 observations), documentation (104 observations) and nursing assessment (87 observations). However, the sample size used in this study was small and specific to a large trauma centre in the United States, making it difficult to generalise or transfer to children's A&E nursing within the UK. Additionally, this study did not distinguish those activities specific to the care of children and was also undertaken over 20 years ago, suggesting that the application of these findings to A&E nursing today would be impractical due to the many changes which have occurred with advanced nursing roles and new healthcare initiatives (Furlong & Smith 2005).

In contrast, Craven & Froman (1993) acknowledged the need to evaluate the skills and competencies required when caring for children in A&E Departments and how these differ to those necessary when caring for adult patients. The findings were not dissimilar to concerns reported by the RCPCH and RCN (2010); for example, there was recognition that pre-registration nurse training did not equip RNs with the necessary skills to care for children in A&E Departments. Although, this study did include a list of 47 skills associated with nursing, the main aim of the study was to measure nurses' perception of self-efficacy in undertaking common skills in preference to distinguishing those most important when caring for children in A&E Departments.

The activities of A&E nurses were also investigated by Hollingsworth *et al* (1998) using a convenience sample of RNs (n=17) and non-participant observation. The researchers found that nurses spent more time undertaking indirect care activities (e.g. charting) compared to direct care activities (e.g. history and physical examination). Again, the generalisability and transferability to other A&E Departments is uncertain as the study did not include all RNs working

within A&E. In fact, RNs were excluded if they worked in triage and the critical care areas of A&E. Because of this, the findings cannot be applied to current A&E Departments in the UK where RNs must nurse patients in all areas of A&E including triage, minors, majors, paediatrics and critical care (resuscitation). Furthermore, although the study did identify some activities associated with the role of the A&E nurse (talking, comforting, transporting, and assisting with procedures), it did not distinguish those activities that may be specific to the care of children and their families. The study was also primarily concerned with identifying the 'time spent' by clinicians on specific activities in preference to trying to distinguish those activities and interventions exclusively undertaken by A&E nurses. Finally, this study is dated and may not be applicable to current practices within A&E Departments today for the reason already identified.

Lack of clarity about the activities and procedures undertaken by nurse practitioners in A&E Departments was identified by Cole & Ramirez (2000) in the US. Using a convenience sample of nurse practitioners (n=72), this study aggregated data pertaining to activities and procedures performed by A&E nurse practitioners. However, whilst there were commonalities among nurse practitioners regarding certain activities and procedures; only one paediatric nurse practitioner was included in the study. As a result, the study is unable to elicit if the activities identified were similarly performed by paediatric nurse practitioners or applicable to the care of children. Furthermore, the regulation and training of nurse practitioners in the UK differs to that experienced by RNs in the US and as a result, it would be unwise to apply the findings to A&E Departments in the UK.

Subsequently, Hall (2001) investigated the knowledge, skills and attitudes required to care for children in UK A&E Departments using a Delphi survey, staff survey and non-participant observation. The skills identified by Hall (2001) were

similar to some of the activities cited by Craven & Froman (1993); for example patient assessment, communication, medication management and technical skills. Interestingly, the researcher also identified poor practice among those nurses that did not have a registerable qualification to care for children, a concern that has been alluded to in professional publications extending over many years (RCPCH 1999, RCPCH 2007, RCPCH 2012). For example, Hall (2001) found that communication with children was poor among non-children's trained nurses, despite this being seen as an important and frequently undertaken activity when caring for adult patients (Adler & Icenhour 1993). This could suggest that particular skills are required when communicating with children and their families, not dissimilar to that suggested in publications pertaining to FCC (Coyne 2006, Coyne & Gallagher 2011). It would therefore be justified to suggest that RNs with responsibility for the care of children in A&E Departments require a specific set of skills and competencies for this role that have not been reported previously. Unfortunately, Hall (2001) concentrated her study on children presenting to A&E Departments following a traumatic injury and did not investigate the skills and competencies associated with caring for acutely unwell children.

Less description was given in the report of the study conducted by Rodrigues (2004), although the findings are no less important. This study found a lack of nursing activities associated with the psychological and spiritual needs of patients compared with those associated with their physical needs. This was the only study that identified a deficit in activities not associated with the physical care of patients. Similarly, activities specifically associated with the care of children in A&E Department were not explicitly discussed. Nonetheless, the researcher recommended a need for improvements in the nursing curriculum, research and patient education, with the aim of improving the holistic care for patients attending A&E by the introduction of FCC. Again, there was an emphasis on improving nursing education to ensure the needs of patients were

appropriately met while in A&E, alongside a need for a more family centred approach to care delivery.

Concurring with the earlier findings by Hollingsworth *et al* (1998), Hobgood *et al* (2005) reported that emergency nurses spent more time on indirect care activities (48.4%) compared to direct care activities (25.6%). Direct patient care was defined as 'tasks performed at the bedside requiring the presence of a licensed, credentialed RN', whereas indirect patient care was those 'tasks performed away from the bedside requiring the expertise of a licensed credentialed RN" (Hobgood *et al* 2005, p. 483). This conclusion followed a three year observational study to examine how RNs allocated their time between activities and how these were influenced by nursing workload. Data were collected from a convenience sample of nurses (n=49) using a prospective direct observational study of nursing activities, A&E attendances and patient acuity during three consecutive summers (2000 – 2003). However, it is difficult to generalise the findings and assess their transferability because of several issues. Firstly, similar to the earlier study by Hollingsworth *et al* (1998), nurses working in specialist areas of the A&E Department (triage, in charge, paediatrics and non-acute areas) were excluded. Secondly, the study was undertaken in a tertiary care centre where provision of indirect care activities was supported by unregistered staff and an advanced computer system which may not be consistent among all departments. Finally, this study concentrated again on investigating the 'time spent' on activities in preference to trying to elicit the nature of activities specific to A&E nurses.

Andersson *et al* (2012) however in an effort to meet the needs of patients in emergency departments, investigated the everyday working of practitioners and how they described their work. This was achieved by employing a qualitative exploratory design with interviews (n=7) and observation (n=28) of practitioners

within two emergency departments in Sweden. The researchers found that not only were care activities an essential part of the work of practitioners in emergency departments, but the delivery of individualised care was compromised by a need to maintain patient flow through the department. Furthermore, it was found that care activities were also primarily based around the medical needs of patients. This study was informative because it identified the challenges within emergency departments which inevitably could prove problematic if trying to deliver FCC to children in A&E Departments. However, it did not distinguish those activities specific to the care of children and how these may differ to the care provided for adult patients.

In a later study, procedures performed by emergency nurses and competencies associated with these were investigated by McCarthy *et al* (2013) by distributing questionnaires to a convenience sample of RNs (response rate 53%, n= 214) working in 11 emergency departments in Southern Ireland. Activities within the category of 'diagnostic function' were found to be those most often performed by RNs. This included the physiological assessment and triage of patients which is applicable to RNs caring for children in A&E Departments as they have responsibility to identify those children seriously unwell or injured (RCPCH 2012). However, in addition to those activities identified as more frequently undertaken by RNs, competence to undertake these activities was influenced by the frequency by which they were undertaken in practice (Campo *et al* 2008). This finding has implications for RNs working in mixed A&E Departments in the UK who may have responsibility for undertaking activities for children in mixed A&E Department. However, because children account for only approximately 25% of attendances to mixed A&E Departments annually (RCPCH 2012), this may result in less frequent exposure to activities and interventions, therefore influencing the ability to gain competence. As a result, application of the findings to children in A&E Departments is difficult.

Finally, Stauber (2013) investigated the benefits of implementing advanced nursing interventions (ANI's) for adult patients with abdominal pain at triage. The intention was to determine if ANI's would reduce length of stay (LOS) or time in room (TIR). Advanced nursing interventions were described as additional diagnostic tests that an RN could request based on a patients presenting complaint. However, this study only included adult patients (n=272) with abdominal pain and time in department was not reduced by the introduction of ANI's at triage. They did however reduce the time spent by patients in consultation room, allowing more patients to be treated. Whilst this study demonstrated additional activities and interventions not normally the responsibility of RNs, it did not suggest any benefits to the care of children in A&E Departments.

The above studies suggest that there are many activities and interventions associated with A&E nursing, although none of which have been clearly defined as specific to the care of children in A&E Departments. The evidence was categorised into themes, many of which were related to adult nursing and it was difficult to apply these to the care of children and their families due to their specific needs while in hospital. As a result, the activities and interventions important when caring for children in A&E Departments remain unclear. However, in an effort to investigate this further, studies specific to the care of children will be explored to determine if activities and intervention have been identified specific to A&E or from other paediatric facilities that may be transferable to the care of children in A&E Departments.

Table 2.2 Characteristics of A&E Nursing studies

Study & Country	Study Aims	Design & sample size	Study site	Data collection instrument	Findings	Comments
Adler and Icenhour (1993) USA	To determine the actual work that emergency nurses undertake using work sampling	Cross sectional study Convenience sample of RNs (n=11)	Emergency Department single site	Work sampling using non-participant observation. Structured schedule every 5 mins for 6 hours, included all shifts	Assessment: 38.9% of time Technical skills: 20.7% of time Aide/orderly: 10.5% of time Secretarial: 9.3% of time Education: 9.1% of time Idle time: 5.3% of time Management: 3.0% Crisis intervention: 3.0% Research: 0.1%	Small non-randomised sample from a single site Single data collector Non validated tool used for data collection No inter-rater reliability
Anderson *et al* (2012) Sweden	To explore every day work of practitioners &their care and treatment of patients with urgent and non-urgent conditions at Swedish ED's.	Mixed method Convenience sample Observation (n=28) Interview (n=7)	2 Emergency Departments	Participant Observation Group interviews	1 .Interpersonal encounters with patients and relatives reduced. 2. Relationship with patients is essential. 3. Providing information is important 4. Care activities are essential part of work of ED's. 5. Care activities focus on medical needs	Lack of data collection on night shift Sample not equally represented by all grades and gender
Cole and Ramirez (2000) USA	To determine the activities & procedures performed by nurse practitioners in emergency care settings.	Cross-sectional study Snowball sampling (n=72)	Nurse practitioners in emergency care settings. National study	Self-completed postal/email questionnaire	56 activities and procedures identified as important by nurse practitioners.	Only one nurse practitioner was certified within the field of paediatrics.
Craven and Froman (1993) USA	To develop & validate an instrument to measure nurses' perception of self-efficacy in performing common skills	Cross sectional study Purposive sample (n=125) Response rate not reported	21 Emergency departments National study	Self-completed postal questionnaires	Nurses have more perceived efficacy if they have more objective knowledge. Nurses show more task enjoyment with stronger efficacy; show more efficacy when they have greater history of task experience through their education.	Large sample size based on multiple sites

Study & Country	Study Aims	Design & sample size	Study site	Data collection instrument	Findings	Comments
Hall (2001) UK Unpublished	To identify the knowledge, skills & attitudes needed by nurses caring or children in A & E units following trauma	Multi-methods Response rate for Delphi 66% Response rate for questionnaires 31%	3 Emergency departments	(1)Delphi survey (n=16) (2)Self-completed postal questionnaires (n=45) (3) participant observation (n=3)	Discrepancies between required and actual competencies. Recommendation: attention should be given to the balance between developing the paediatric knowledge and skills for the general care of unwell children.	Multiple-methods utilised Poor response rate for questionnaires returned.
Hobgood *et al* (2005) USA	To determine how emergency department (ED) RNs allocate their time between various tasks & describe how RN task distribution changes as a function of various measures of ED patient volume & patient acuity	Longitudinal study Randomised sample of RNs (n=49)	1 Emergency department	Time and motion study using non participant observation Structured schedule every 1 minute for 8 hours	Direct care: 25.6% of time Indirect care: 48.4% of time Non RN care: 6.8% of time Personal: 19.1% of time	Single site study: tertiary care centre Eligible nurses randomly selected No nurses declined to participate Excluded nurses in triage, in charge, paediatrics and non-acute care.
Hollingsworth *et al* (1998) USA	To determine how emergency physicians & nurses spend their time on emergency department activities	Cross-sectional study Convenience sample of emergency clinicians (n=39)	1 Emergency department	Time and motion study using non participant observation	Direct care: 32% of time Indirect care: 47% of time Non patient care: 21% of time RNs spent more time on personal activities RNs completed more activities than physicians/residents.	Single site study with limited generalisability due to exclusion criteria All shifts not included Sample bias: not all nurses included
McCarthy *et al* (2013) Ireland	To identify the procedures performed & associated competencies of emergency nurses	Quantitative descriptive design Convenient non-random sample (n=214) RR 53%	11 Emergency Departments	Self-completed questionnaires	Activities associated with diagnostic function were conducted the most. There was a statistically significant relationship between nurses level of perceived competence and frequency of practice ($r = .651$, $n=214$, $p<0.01$)	Non-random sample

Study & Country	Study Aims	Design & sample size	Study site	Data collection instrument	Findings	Comments
Rodrigues L (2004) India	1 .To identify the needs of patients in the emergency department. 2. To identify the nursing activities carried out to meet the needs of the patients in the emergency department.	Cross-sectional study Patients: (n=60) Systematic Random sampling	Emergency department: number of sites not specified.	Non-participant observation	All physical needs of patients met: these were not specified in the study. Psychological/spiritual needs not met.	Content validity of tool ascertained by expert panel Response rate not reported Recruitment not reported Sample bias unknown
Stauber (2013) USA	To determine the time in department and time in room for patients who received Advanced Nursing Interventions (ANI's) at triage and those that did not.	Retrospective chart review Convenience sample (n=243)	1 Emergency department	Retrospective review of medical notes	ANIs were associated with less time in room. ANI's improved patient flow through Emergency department	Single site study Patient population may differ from other Emergency departments. Non-randomised trial

2.7 Activities and interventions when caring for children

Only five studies (Table 2.3) were primarily concerned with children's nursing (Craven & Froman 1993, Holaday *et al* 1999, Hall 2001, Pelander & Leino-Kilpi 2004, Moore & Beckwitt 2006). The first of these studies (Craven & Froman 1993) investigated paediatric emergency attendances to determine activities important to patient care with the aim of devising a Pediatric Skill Survey (PSS) that was later distributed to a convenience sample of emergency nurses (n=125) from 21 hospitals in the US. The researchers identified 47 activities associated with the care of children in A&E Departments. These included the need to be able to recognise serious illness, normal paediatric physiological parameters, medicines management and an extensive list of technical procedures such as wound management, cervical spine immobilisation, fracture management and the collection of specimens. The study also reported that nurses showed more 'efficacy' when they had greater exposure to activities through their education and clinical experience, which was similar to that described by McCarthy *et al* (2013). Self-efficacy was defined as "one's perception about the adequacy and understanding of the knowledge as needed for performance" (Craven & Froman 1993, p.131). This was the main aim of this study and as such there was less emphasis on distinguishing those activities and interventions most important when caring for children in A&E Departments.

One specific activity of importance was identified by Holaday *et al* (1999) and concerned the assessment and documentation of pain in children. Holaday *et al* (1999) recruited a convenience sample of nurses (n=303) from hospitals in Finland and examined fifty sets of patient case notes to evaluate activities such as medication administration and documentation. Whilst this study focused primarily on activities associated with the assessment and management of pain, it did emphasise the importance of these activities when caring for children in hospital. However, despite finding pain assessment and management to be an

important nursing activity, the researchers recommended that the assessment of pain could benefit from being more systematic and that instruments employed in this process could be used more effectively.

Subsequent to this study, Hall (2001) identified an inventory of skills used by RNs when nursing children in A&E Department following trauma, which included patient assessment, communication, observations, pain management, child protection and family-centred care. In addition to these, specific trauma (Intraosseous needle insertion, resuscitation, invasive ventilation) and general A&E skills (medication administration, assessment, problem solving) were also identified. Furthermore, RNs (n=165) reported communication to be the most frequently reported skill necessary when caring for children in A&E. However, as this study was primarily focused on the care of children following trauma, these findings cannot be adopted for all children attending A&E Departments.

Unlike the previous two studies which were specifically focused on the experience of nurses, Pelander & Leino-Kilpi (2004) examined the expectations among children (n=40) with respect to the quality of care received in hospital. Although this study was primarily concerned with quality of care, the children expected certain nursing activities to be undertaken by nurses. These included the ability to provide ‘entertainment’, ‘education’, ‘safety’ and ‘caring’ as part of their role in caring for them. In addition to providing physical care, the children also reported that they expected nurses to communicate with them, particularly with respect to equipment and treatment options. The emphasis placed upon communication was not dissimilar to that identified by Coyne (2006) when exploring the views among children, parents and nurses with respect to their participation in care within hospital. In fact, the latter study found that children were keen to be involved in discussions regarding their care and treatment, indicating the importance of communication as a nursing activity. The benefits of

providing information about treatments were found by Coyne to make children 'feel more in control' (2006, pg. 68).

Caring activities were identified by Pelander & Leino-Kilpi (2004) to include physical care and treatments such as medication administration and procedures. The most significant difference when comparing this study with others was the emphasis placed upon play and how this should be incorporated better when providing information to children. Furthermore, in contrast to the aforementioned studies, this study interviewed children and as a result reported those activities considered important by children. It also identified the social and physical expectations that children had regarding the nursing environment. For example, parental presence, the presence of other children and the need for an appropriate environment to play. In fact, many of the comments made by the study sample (n=40) could be considered core to the delivery of FCC. Similarly, Moore & Beckwitt (2006) investigated nursing interventions for children with cancer (n=27) and their parents (n=19) and concluded that family involvement in care was often overlooked, with particular reference to siblings who were often excluded from the care process. Interventions that were completed well included, teaching and providing information.

Although the study by Moore & Beckwitt (2006) focused on the interventions associated with life-limiting conditions, the principles of FCC remain applicable to A&E Departments where children and families access emergency care. However, whilst the philosophy of FCC has been adopted by children's' nursing internationally (O'Malley *et al* 2008, Coyne *et al* 2011), the ability to apply the principles to A&E nursing has been challenged by overcrowding and patient acuity, thus making it difficult for clinicians to provide 'respectful and sensitive care' (O'Malley *et al* 2008, pg. 512).

This scoping review was only able to identify the small number of studies available that focused on the activities and interventions associated with children's nursing (Table 2.3), resulting in a need to investigate if any of the findings from adult nursing studies (Table 2.4) were transferable to the care of children. Furthermore, the mere fact that most children attending A&E Departments in the UK receive care from non-children's trained nurses (RCPCH & RCN 2010), familiarity with the activities and interventions frequently undertaken by such nurses may be used to inform areas for future development and training. Furthermore, the National Service Framework for Children (DH 2004) stipulated that all children should be involved in all care provided to them, however the above studies could not distinguish those activities and interventions considered important when delivering emergency care to make this possible.

Table 2.3 Study characteristics of children's nursing studies

Study & Country	Study Aims	Design & sample size	Study site	Data collection instrument	Findings	Comments
Craven and Froman (1993) USA	To develop and validate an instrument to measure perception of self-efficacy in performing common skills needed to care for pediatric patients.	Cross sectional study Purposive sample of nurses (n=125) RR not reported	21 Emergency departments National study	Self-completed postal questionnaires	Nurses have more perceived efficacy if they have more objective knowledge. Nurses show more task enjoyment with stronger efficacy; show more efficacy when they have greater history of task experience through their education.	Large sample size based on multiple sites
Hall (2001) UK Unpublished	To identify the knowledge, skills and attitudes needed by nurses caring or children in A & E following trauma	Mixed-methods Delphi RR 66% Questionnaire 31%	3 Emergency departments	(1)Delphi survey (n=16) (2)Self-completed postal questionnaires (n=45) (3) Participant observation (n=3)	Discrepancies between required and actual competencies. Recommendation: attention should be given to the balance between developing paediatric knowledge and skills for general care of unwell children.	Multiple-methods utilised Poor response rate for questionnaires returned.
Holaday *et al* (1999) Finland	To explore nurses' assessment and documentation of pain in children	Mixed-methods Convenience sample survey (n=303) Case study (n=50)	Multi-sites: five paediatric inpatient units	(1)Self-completed questionnaires (2) Review of clinical records	Nurses assess pain mainly by observing behaviour and changes in physiology Pain assessment instruments are rarely used Documentation of pain in unsystematic	Multi-site study for completion of questionnaires Review of charts only represent that of 1 hospital

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Study & Country	Study Aims	Design & sample size	Study site	Data collection instrument	Findings	Comments
Moore & Beckwitt (2006) USA	1. What self-care/ dependent-care operations children and parents performed to address children's self-care requisites? 2. Identify perception about nursing interventions that promoted these operations.	Mixed methods Purposive & snowball sampling (n=27)	Participants from 11 institutions	Unstructured Interviews	Teaching and supplying information identified as interventions performed frequently by nurses. Interventions that need improvement: securing family members involvement. Siblings were often excluded	Poor representation from Fathers and parents from Black, Minority and ethnic groups
Pelander & Leino-Kilpi (2003) Finland	To examine children's expectations concerning the quality of pediatric nursing care.	Cross sectional study Purposive sample of children (n=40)	1 hospital: outpatient department, surgical ward & community care	Theme interviews (n=40)	Activities reported Entertainment, educational, caring, physical care and treatment, respect (listening), ensure safety. Both nurses and parents were expected to take part in nursing activities. Children expected entertainment, play and instructions regarding treatments from nurses	Children aged 4 -11 years target group Short interviews

2.8 Activities and interventions in General nursing

The majority of studies pertaining to nursing activities and interventions focused on the care of adult patients in different clinical settings other than A&E Departments with the aim of investigating the activities undertaken by RNs in the delivery of nursing care (Table 2.4). There were many reasons identified by the researchers for undertaking such studies in what was primarily adult nursing, some of which were financial (Abbey *et al* 2011, Hendrich *et al* 2008). For example, there were fears that the UK government would cut spending by 0.9% percent by 2015, accompanied by a 4% productivity saving (Appleby 2011) which would impact on the nursing workforce and the availability of training and professional development for nurses. Because of this, many studies concentrated on the activities and interventions of clinicians working in different clinical areas in an effort to justify their existence and contribution to patient care.

In an effort to describe the activities and interventions of clinicians in the US, McCloskey *et al* (1998) utilised the Nursing Intervention Classification (NIC). However, although described by the researchers as suitable for all settings, including paediatrics, this study focused primarily on adult nursing. The study ;involved an investigation into 40 clinical specialty organisations using self-completed postal questionnaires (response rate 82%) to explore interventions core to each area of specialty practice. This was an old study from the US, but proved useful in determining how often nursing interventions were undertaken in each specialist area of practice. The study included an extensive list of 443 interventions and included clinicians involved in current practice. From this, the researchers confirmed that pain management was the most frequently undertaken activity (19 organisations), followed by documentation (18 organisations), emotional support (18 organisations) and discharge planning (17 organisations). The majority of interventions (96%) were identified as core by at

least one specialty and only 3% were not listed as core to any specialty, suggesting some generic interventions common to multiple specialties. The suggested benefits of the NIC included the ability for nurses to be able to communicate the interventions associated with different practice areas. The researchers recommended that future studies should include the outcomes, costs and prevalence of multi-tasking associated with each intervention. Nonetheless, this study was informative with respect to providing a list of those interventions, many of which may be transferable to emergency care and paediatric nursing. However, the feasibility of using such an extensive list of interventions may not be practical; data from this study could be used to inform future training and competency frameworks with respect to generic skills in nursing.

Two subsequent studies from Australia (Chaboyer *et al* 2008, Abbey *et al* 2011) explored the activities of nurses working in private and public hospitals. The first of these studies undertaken by Chaboyer *et al* (2008) explored the activities undertaken by RNs and enrolled nurses (ENs) (n=114) on four adult medical wards. The researchers used random intermittent observation because of its associated reliability (Finkler *et al* 1993) and found indirect care activities (47.3%) exceeded time spent on direct care activities (33.2%). Finkler *et al* (1993) postulated that random intermittent observation was less prone to errors with respect to changes in the behaviour of workers when compared to continuous observation.

Direct care activities were those completed in the company of the patient and family; whereas indirect care activities were those associated with the care of a patient, but performed away from the patient (Pelletier & Duffield 2003). Indirect activities included: rounds/team meetings, handover, care planning and clinical pathways. In contrast, direct care activities included ‘admission/assessment,

hygiene, patient/family interaction, medication management and procedures', and were consistently undertaken by all grades of trained staff. Of these, communication comprised a large component of the activities undertaken (33.1% of all activities). Whilst this study was undertaken on adult medical wards where patients are often older and require additional assistance with care, the need for additional assistance could in some respects be compared to that required by children and families in hospital. Therefore, the fact that admission and assessment were frequently recurring activities with these patients may be synonymous with children's A&E nursing.

A later study by Abbey *et al* (2011) used non-participant observation to record the activities (n=3081) of adult ICU (Intensive Care Unit) nurses over a 10 day period. This study utilised a small convenience sample to obtain data from nurses (n=10) involved in direct patient care. The researchers found that direct care activities most frequently observed were again associated with the admission and assessment of patients, in addition to patient/family interaction and procedures (81.6%). Furthermore, the activities most frequently performed within the category of indirect care (82.8%) were care coordination, rounds, meetings, medication preparation and equipment management. Whilst again, another adult study, the high dependency care associated with the management of children in A&E Departments makes this study applicable to determine if activities and interventions change with respect to the dependency associated with the care of patients. Furthermore, commonalities are already occurring within adult studies that may also be transferable to children's A&E nursing. For example, admission and assessment have been identified in both adult and child specific studies as activities frequently undertaken by nurses. This study was also able to distinguish time spent on 'direct care' (n=1857) activities compared to 'indirect care' activities (n=986), suggesting that those patients more seriously unwell will require more direct care activities to be completed. Whilst, this may not be surprising considering the dependency of patients in intensive care, there

may be similarities with the care of children seriously ill or injured in A&E Departments. This study also recognised the fact that nurses often undertake two or more activities simultaneously which has not been considered in earlier studies and may need attention for any planned future studies.

Investigating activities and interventions associated with caring for adult medical and surgical patients, Hendrich *et al* (2008) collected data from a randomised sample of nurses (n=767) using personal digital assistants. The researchers reported that nurses spent most time on documentation, recording observations, communication, medication management and delivering basic care needs, such as washing and feeding; activities consistent with children's nursing. However, unlike the earlier studies that identified the admission and assessment as activities most frequently undertaken by RNs, Hendrich *et al* (2008) reported that only 7.2% of nursing time was committed to these activities. Overall, the results demonstrated that RNs spent large proportions of their time on activities not directly involved in care delivery. This will inevitably have an impact on those children attending mixed A&E Departments, where RNs have responsibility for the care of medical, surgical adult patients, in addition to children acutely unwell or injured. Therefore, time spent on activities such as documentation, medication preparation and care co-ordination may distract from the time available for RNs to commit to delivering care to children and their families.

Similar to Hendrich *et al* (2008), a Swedish study by Furåker (2009) reported that nurses spent more time on 'not with patient' activities (62%) in comparison to general and specific nursing duties (38%). Those activities referred to as 'not with patients' included writing reports, ward rounds, personal time, administration and teaching. Those defined as 'general nursing activities' for which nurses spent only 19% of their time included attending to patient hygiene needs, making beds, conversation, interviews, wound care and greeting

patients. Similarly, 19% of nursing time was spent on specific activities such as medication administration and treatments. Whilst this study was informative with respect to activities undertaken by RNs, these were concentrated on inpatient wards where patient care may differ to that provided in A&E Departments were patients do not yet have a confirmed diagnosis. There were also some study limitations which should be acknowledged. Firstly, the personal diaries utilised for this study relied on honesty and time available to complete these. In fact, the researchers reported that some participants failed to describe certain activities as they were too busy. Secondly, this was an exploratory study that excluded paediatric units and therefore did not give a true account of activities associated with the care of children. Additionally, participation was voluntary and as a result may not be representative of all nurses. In effect, by using self-selection, it is difficult to confirm if the activities of non-participants would be different to those who participated in the study.

Investigating the activities through the perception of patients has also proved useful in ensuring patient satisfaction, as explained by Oflaz & Vural (2010). These researchers aimed to investigate the perception among inpatients (n=454) of activities undertaken by RNs in a teaching hospital in Turkey. Whilst this cross-sectional descriptive study did not include RNs working in A&E Departments, it did identify the importance of communication as a nursing activity and its association with patient satisfaction which is transferable to children's A&E nursing. In fact, patients who were happy with communication from RNs were reported to be more satisfied with the care received. The findings are supportive of the earlier literature that suggests that RNs need to be competent in communicating with patients in addition to other nursing skills (Wood 1997, Lynn & McMillen 1999).

Subsequently, Kaya *et al* (2011) acquired data pertaining to the activities of RNs (n=166) working in intensive care units (ICU) in Turkey and found patient assessment to be a frequently undertaken activity among ICU nurses. This activity is not uncommon to that undertaken by A&E nurses in that it involves 'data collection intended for the identification of the patients problems via interview, observation, nursing history and physical assessment' (Kaya *et al* 2011, pg. 311).There were also other activities identified within this study that could be considered synonymous with A&E nursing. For example, record keeping with respect to vital signs, fluid balance and investigations (Table 2.4). Nonetheless, although many of the activities described by Kaya *et al* (2011) could be considered common to many different types of clinical areas, these results only reflect the activities associated with the care of patients in ICUs.

The aforementioned general nursing studies have identified nursing activities and interventions, many of which are associated with adult patients who are dependent or in receipt of high dependency or intensive care nursing. Whilst it could be argued that some of these activities and interventions may be transferable to the care of children who are seriously unwell or dependent on nursing care because of their physical or emotional development, there is no evidence in the above empirical studies to substantiate this. There remains a lack of detail surrounding the activities and interventions associated with the care of children in A&E. Therefore, to ensure a cohesive and thorough investigation, the scoping review will next examine those studies associated with specific nursing roles and their associated activities and interventions.

Table 2.4 Study characteristics of General nursing studies

Study & Country	Study Aims	Design & sample size	Study site	Data collection instrument	Findings	Comments
Abbey *et al* (2011) Australia	To describe & analyse the work activities of bedside intensive care unit nurses.	Cross sectional study Convenience sample of ITU nurses (n=10)	Adult Cardiac ITU (12 beds) Single site study	Time and motion sampling Non-participant observation between07:00 – 15:30hrs.	3081 activities documented Direct care: e.g. admission, patient interaction, procedures. 40.5% of time, 60.3% of activities Indirect care: e.g. care coordination, meetings, medication/IV prep. 32.4% of time, 32% of activities Personal: 21.9% time, 4.5% of activities Unit related: 5.0% time, 3.2% of activities Two activities simultaneously: 43% of time.	Small sample size from a single site. Non-randomised sample: recruitment relied on volunteers Only collected data on day shifts Limited generalisability.
Chaboyer *et al* (2008) Australia	To describe the activities undertaken by enrolled nurses (ENs) and RNs.	Cross sectional study Convenience sample of RNs and ENs (n=114) RR >80%.	4 Medical wards in 2 hospitals	Work sampling using non-participant observation. Structured schedule every 10 minutes for 2 hours. .	Direct care: Admission/assessment, hygiene, patient/family interaction, medication, IV administration and procedures. 33.2% of activities. Indirect care: Patient rounds/team meetings, care planning and clinical pathways 47.3% of activities Unit related: Teaching, in-service meetings/administration 6% of activities Personal: 13.5% of activities	Non randomised sample based on only two sites Good response rate. Work sampling did not permit recording of more than one activity at once.
Furåker (2009) Sweden	To examine nurses' work in somatic & psychiatric wards	Cross-sectional study RR (n=30)	1 hospital (10 wards) Single site study	Self-reporting logs using flexible time intervals	General activities e.g. hygiene, making beds 19% of time Specific activities e.g. medication, specimen collection: 19% of time, Giving reports-15%,Ward rounds-6%,Breaks-13% Administration-25%, Pedagogical-3%, 62% of time not spent with patients	Night time/weekends excluded Non-random sample Not all activities included due to participant error

Study & Country	Study Aims	Design & sample size	Study site	Data collection instrument	Findings	Comments
Hendrich *et al* (2008) USA	To determine how nurses spend their time.	Cross-sectional study Randomised sample of RNs (n=767) Response rate 92%	Medical/surgical wards: randomly selected National study	Time and motion study using self-reporting logs	Activities reported Nursing practice: 77.7% of time Non clinical: 12.6% of time Waste: 6.6% of time Unit related: 2.8% of time Majority of time spent on 1. Documentation 2. Care co-ordination 3. medication administration Documentation most commonly undertaken activity (27.5% of time)	Large multi-site study Randomisation used for hospital recruitment and participants. Good response rate 36 hospitals included, although predominantly urban hospital, 1% were rural.
Kaya *et al* (2011) Turkey	To determine applications practiced by nurses working in intensive care units of various institutions in Turkey	Cross-sectional study Cluster sampling (n=54) ;	4 Intensive care units	1. Personal information form 2. Patient classification scale 3. Nursing activity list	Direct care practices: 40% of time during day 30 – 45% of time during night Patient assessment: 15 – 25% of time during day 16 – 20% of time during day Most time on direct nursing care, clerical nursing duties and patient assessment. Most frequent activities: e.g. observations, fluid balance, communication, non- task orientated drug preparation, administration.	Day and night shifts included over 1 week period 4 specialties of ITU's included.
McCloskey *et al* (1998) USA	To identify interventions core to each area of specialty practice.	Cross-sectional study Purposive sample of clinical specialty organisation (n= 40) Response rate 82%	49 Clinical Specialty/ Organisations: members of the American Nurses Association's National Organisation Liaison Forum & listing in American Journal of Nursing National study	Self-completed postal questionnaire	Core interventions: Pain management (18 organisations) Documentation (18), Emotional support (18), Discharge planning (17). 96% of the interventions in the NIC were identified as core by at least one specialty.	Large sample size and good representative sample of all specialty nursing groups. Good response rate

Study & Country	Study Aims	Design & sample size	Study site	Data collection instrument	Findings	Comments
Oflaz and Vural (2010) Turkey	To examine the relationship of inpatients' perception and satisfaction statements with nurses and the nursing activities presented and to determine nursing activities that were implemented mostly from the view of inpatients	Cross-sectional study Proportioned quota sampling Response rate 94.5% (n=454)	1 Hospital (28 inpatient units)	Self-completed questionnaires	Direct care: primarily medication administration, specimen collection, personal hygiene attention, toilet needs, eating and changing clothes. Patients value communication with nurses 43.8% given information about being discharged. Technical activities were recognised more by patients than activities related to care.	Excluded paediatric units, ICU and psychiatry Only 1 hospital included in study Good response rate

2.9 Nursing roles

Three studies (Adams Scott 1999, Cole & Ramirez 2000, Norton *et al* 2012) investigated the activities and interventions associated with roles beyond that of a registered nurse (Table 2.5). Whilst, the relevance of reporting on these studies within the scoping review is questionable, they are important as the role of the children's nurse in A&E is often considered a specialist role by some clinicians and as such there may be some similarities with respect to nursing activities and interventions.

The role of Clinical Nurse Specialists (CNSs) were investigated by Adams Scott (1999) who reported huge variations on the time spent undertaking clinical care activities (29% to 91%), educational activities (24% to 89%), research activities (15% to 93%) and consultations (18% to 96%). The study surveyed a convenience sample of CNSs (n=724) in the US who subscribed to a professional journal, the majority of whom (68%, n=490) were employed in secondary care and represented 25 specialty groups. However, this highly selective group meant that their opinions may have differed to those who did not subscribe to the professional journal. Adams Scott (1999) reported clinical care activities to include both direct and indirect care, although the variability in the amount of time spent on each activity makes it difficult to generalise the findings. Although CNSs are not commonly associated with A&E Departments, the study was useful in demonstrating the difficulties in defining activities associated with nursing roles and how activities and interventions associated with advanced practice differ to those of RNs.

Subsequently, Cole and Ramirez (2000) distributed questionnaires to a convenience sample of emergency nurse practitioners (n=96) in the US to determine nursing activities performed by them. It was found that activities were

primarily learnt ‘on the job’ or by attending educational conferences. However, whilst this study was useful in identifying those activities performed by nurse practitioners in emergency care, it was not able to elicit those activities undertaken by paediatric nurse practitioners as there was only one recruited in this study. The study was therefore unable to determine if a different set of activities were associated with the role of paediatric nurse practitioner in emergency care. Instead, the study concentrated on activities associated with the care of adult patients with no evidence to demonstrate their transferability to children’s nursing.

Another study investigating the activities and interventions of specialist nurses in the UK was undertaken by Norton *et al* (2012). This study included CNSs, consultant nurses and consultant midwives (n=236) who recorded their activities every 10 minutes. The data collection tool was the product of a rigorous consultation with 50 CNSs and email correspondence with hospital staff. All participants were purposively selected from within specialist nursing roles and worked primarily within adult services. The study obtained responses from 236 individuals (90.4% of those surveyed) who recorded their activities on personal diary cards. Six broad categories of activities were reported (patient facing, patient related, administration, training/development, travel and other). Nursing activities were mostly patient facing (time with patient or relative, ward rounds, prescribing and clinical research) and related activities (multidisciplinary team discussions, discharge planning, patient related telephone calls) (62.2%); of which assessment and diagnosis were the dominant category. It was also reported that 16.4% of CNS activities prevented hospital admissions and adverse events. However, this information was difficult to verify because of the subjective nature of the data (Norton *et al* 2012). Furthermore, this study again demonstrates inconsistencies with defining the categories for activities and interventions, making it difficult to compare studies. For example, Adams Scott

(1999) and Norton *et al* (2012) invariably used different categories when describing activities and interventions.

Nonetheless, both surveys (Adams Scott 1999, Norton *et al* 2012) identified that CNSs were responsible for many activities and interventions. However, the ability to compare these findings was not possible because of the variability in the findings reported. For example, Adams Scott (1999) reported that time spent by CNSs on clinical activities ranged from 29% to 91%, compared to Norton *et al* (2012) who reported this as 41%. The variability in the findings within the former study questions the reliability of the data collection method used. There was extreme variation in the time spent by CNSs in different activities found by Adams Scott (1999) when compared to Norton *et al* (2012) who was more specific with respect to the time spent on different activities. Overall, there were inconsistencies in the reporting of nursing activities and interventions in specialist nursing roles, with only one study specifically looking at those activities associated with emergency nursing.

The above studies demonstrate that those activities and interventions associated with specialist nursing roles were primarily adult focused with evidence of variable practice among clinical nurse specialists. Clinical nurse specialists were viewed as autonomous practitioners and experts in their field, making it difficult to generalise the findings to A&E Departments where care is primarily delivered by RNs with variable knowledge and experience. For those activities associated with the role of emergency nurse practitioners, there was a lack of evidence to substantiate the activities and interventions associated with the role of paediatric nurse practitioners. This again would suggest a need for clarity with respect to the activities and interventions associated with the care of children in A&E Departments.

Table 2.5 Characteristics of studies pertaining to nursing roles

Study & Country	Study Aims	Design & sample size	Study site	Data collection instrument	Findings	Comments
Adams Scott (1999) USA	To describe the roles, activities, skills, and cost-saving and revenue generating activities of Master's prepared nurses who function in traditional CNS roles.	Cross sectional study Convenience sample of CNSs from journal database (RR= 30%)	CNSs from 49 states: mostly hospital based. National study	Self-completed postal questionnaires	Clinical activities: 29% to 91% of time. Educational: 24% to 89% of time Consulting: 18% to 96% of time Research: 15% to 93% of time Administrative: 34% to 85% of time.	Sample bias unknown Non-randomised sample Large variation in the time spent on different activities Poor response rate
Cole and Ramirez (2000) USA	To determine the activities and procedures performed by nurse practitioners in emergency care settings.	Cross-sectional study Snowball sampling (n=72)	Nurse practitioners in emergency care settings. National study	Self-completed postal/email questionnaire	56 activities and procedures identified as important by nurse practitioners.	Only one nurse practitioner was certified within the field of paediatrics.
Norton *et al* (2012) UK	To assess the activities of clinical nurse specialists.	Cross-sectional study Purposive sampling of CNSs (n=236) RR 90.4%	1 Acute hospital Trust Single site	Self-reporting logs (Diary cards) Structured schedule every 10 minutes	Direct care: 41% of time (mean 3hrs 2min per day) Patient related activities: 21.5% of time (1hr 36 min per day) Patient related administration: 32 min per day Other: 82 min per day	Large purposive sample based on one site Good response rate.

2.10 Significance of the reviewed literature to the proposed study

Although nursing activities and interventions were explored within different clinical settings, only five studies included activities and interventions associated with the care of children. Most studies were concerned with the care of adult patients and this was similarly found with those studies concerned with A&E nursing specifically. Only one published study (Craven & Froman 1993) focused on children attending A&E Departments; however the aim of this study was to measure nurses' perception of self-efficacy, in preference to activities associated with their role.

As a result, there is a need to explore nursing activities and interventions associated with caring for children in A&E Departments. It is difficult to transfer the findings from adult nursing studies to children's A&E nursing because the activities and interventions involved in caring for children have many influencing factors which have not yet been explored. Children have different needs to those identified within previous studies (Evans 1999, RCPCH 2012) and the care provided to children should be inclusive of family members by adopting the philosophy of FCC (Coyne 1995a, Coyne *et al* 2011b). Additionally, many of the studies are greater than 10 years old and with the introduction of new nursing roles these could be deemed a poor reflection on today's nursing practice. Further, any new research needs to consider the specific activities and interventions associated with caring for children in A&E Departments, factors associated with their undertaking and parents/carers expectations.

2.11 Implications of the scoping review for the current study

This review has examined the literature pertaining to activities and interventions associated with the delivery of nursing care in a variety of different clinical environments. However, it is apparent that there is lack of clarity pertaining to

those activities and interventions associated with the care of children in A&E Departments. Therefore, based on the lack of evidence pertaining to children's A&E nursing, this study seeks to explore activities and interventions most important when caring for children in A&E Departments alongside factors that may inhibit or enable their undertaking.

CHAPTER 3: Methods

3.1 Introduction

This chapter describes the aims and objectives of the study, the research methods selected to address these, together with the process and selection of the study sample. The ethical issues arising from this study are also discussed.

3.2 Aim of the study

The study aimed to identify the activities and interventions considered important when caring for children within A&E Departments.

3.3 The objectives of the study

1. To identify the views of medical and nursing experts regarding the activities and interventions important when caring for children in A&E Departments.
2. To identify the activities and interventions considered important by registered nurses (RNs) when caring for children in A&E Departments.
3. To identify the nursing activities and interventions considered important by parents/carers when attending an A&E Department with their child.
4. To identify factors considered by clinicians and parents to enable or inhibit the undertaking of nursing activities and interventions.
5. To provide evidence to inform the development of educational initiatives to enhance skills in adult nurses regarding the care of children in A&E.

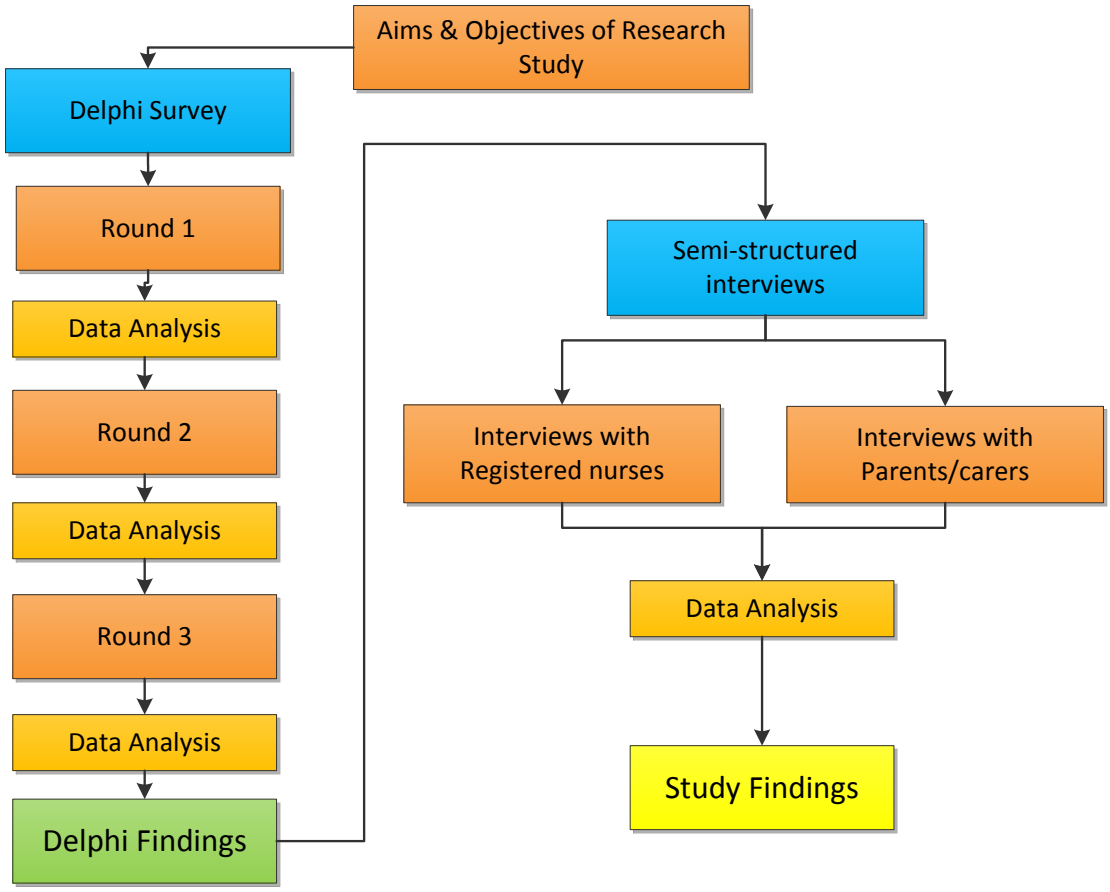
3.4 The study design

A mixed method study using a sequential explanatory design (Creswell 2015) was chosen encompassing an initial quantitative phase, a Delphi survey,

followed by a qualitative interview survey to explain the results from the quantitative component (Hayes *et al* 2013). This differs subtly from multi-method research that involves two methods of data collection from the same paradigm (Andrew & Halcomb 2009). Instead, mixed method research consists of combining methods, concepts or approaches from both quantitative and qualitative research in a single study (Burke Johnson & Onwuegbuzie 2004). The Delphi survey comprised three rounds to determine the views of multi-professionals about the activities and interventions important when caring for children within A&E Departments. The qualitative component used semi-structured interviews to provide additional data on the same subject from RNs and parents (Figure 3.1).

By using a sequential mixed method approach, data were captured from different data sources (experts, nurses working in A&E Departments and parents of children attending an A&E Department) to meet the objectives of the study (Johnson *et al* 2007). The interview data elaborated on the Delphi findings and helped explain why activities and interventions were seen as important whilst also demonstrating disparities between different stakeholders (Lees 2011). If the researcher had decided to use quantitative research alone, the views of parents accessing A&E services might have been disregarded. Mixed methods research has been associated with improving the confirmation of study findings, enhanced data collection, increased validity and enables for better understanding of the phenomenon (Halcomb & Andrews 2005, Casey & Murphy 2009). The study was conducted between July 2012 and June 2013.

Figure 3.1 Study design



The decision to use mixed methods was based on the early suggestions by Andrew and Halcomb (2012) that greater validity is achieved by the ability to corroborate between quantitative and qualitative data. It was anticipated that the data from semi-structured interviews would expand on the findings from the Delphi survey and thus provide a more detailed understanding of the research problem (Doyle *et al* 2009, Creswell 2015). It also allowed for RNs with variable experience, but not yet deemed 'experts' in the field of emergency nursing, along with parents/carers with experience of attending A&E to have the opportunity to contribute to the study.

The inclusion of semi-structured interviews allowed the views of non-experts with experience of the care of children in A&E to be captured; whilst allowing for a broader, more holistic aspect of the phenomenon to be explored (Casey & Houghton 2010). The Emergency Medicine Consultants were excluded from the semi-structured interviews as these were considered 'experts' in the specialist field of emergency medicine and were therefore used only in the Delphi survey to gain extra insight that would inform judgement of 'non-experts' during the semi-structured interviews. As a result, RNs responsible for undertaking activities and interventions for children in A&E Departments were only recruited as the inclusion of 'non-experts' in this way was important as those practitioners considered 'experts' for the purpose of a Delphi survey may not be responsible for enacting the results in clinical practice (Kennedy 2004). Furthermore, because the views of service users have been described as the 'heart of contemporary healthcare policy' (Northway 2000, p. 40), incorporating the views from parents/carers ensured that issues of concern to them were identified (Thomas and Bond 1996). As a result, the exploratory phase of this study recruited RNs currently working in A&E Departments and parents to participate in semi-structured one-to-one interviews to corroborate and elaborate on the findings of the Delphi surveys based on a suggested approach by Powell (2003) and Efstathiou *et al* (2008).

3.5 THE DELPHI SURVEY

The Delphi survey formed the first phase of the study. It had the advantage of providing an 'expert' perspective and consensus of which activities and interventions were important when caring for children in A&E Departments. It was anticipated that the findings of this study would ameliorate the uncertainty and lack of evidence identified in the available literature (Chapter 2). An 'expert' is defined as a 'specialist' in a particular field (Goodman *et al* 1999), an informed individual (Mc Kenna *et al* 1994) or a person with knowledge pertaining to a specific subject (Green *et al* 1999). For the purpose of this study, 'an expert' is a

clinician with specialist knowledge of emergency medicine, and who has an overview of policies, procedures and standards pertaining to the care of children in A&E Departments. The Delphi survey technique was developed by the Rand Corporation in the early 1950's for the purpose of gaining consensus from a panel of 'experts' (Sharkey & Sharples 2001, Keeney *et al* 2011). During this study the panelists were therefore asked to contribute to a series of questionnaires pertaining to children's A&E nursing in an attempt to gain consensus regarding the phenomenon under investigation. This is sometimes described as an 'iterative multistage process' (McKenna 1994) for the purpose of combining individual opinion into a group consensus. The first round is often unstructured and data received from this round are sorted by the researcher to formulate statements that are used in the second round. The second round invites participants to rank their agreement or disagreement with the statements using a Likert scale. Consecutive rounds typically include statements where consensus has not been achieved. A Delphi survey normally involves three to four rounds (McKenna 1994, Roberts-Davis & Read 2001).

The lack of available empirical evidence identified from the scoping review pertaining to the activities and interventions associated with the care of children in A&E Departments led to the decision to utilise a Delphi survey. Additionally, the survey approach allowed access to a dispersed group of A&E experts throughout the UK in an economic and timely manner. Three rounds were used because of concerns that the busy working schedule of A&E nurses and doctors may make it difficult to retain participants for more than three rounds. Furthermore, there was little evidence that additional rounds increase the data yield and concern that the response rate may deteriorate if too many rounds were employed because of fatigue or lack of interest that may occur among participants (Last & Fulbrook 2003). A diagrammatic representation of the Delphi technique employed for this study is outlined in Figure 3.2.

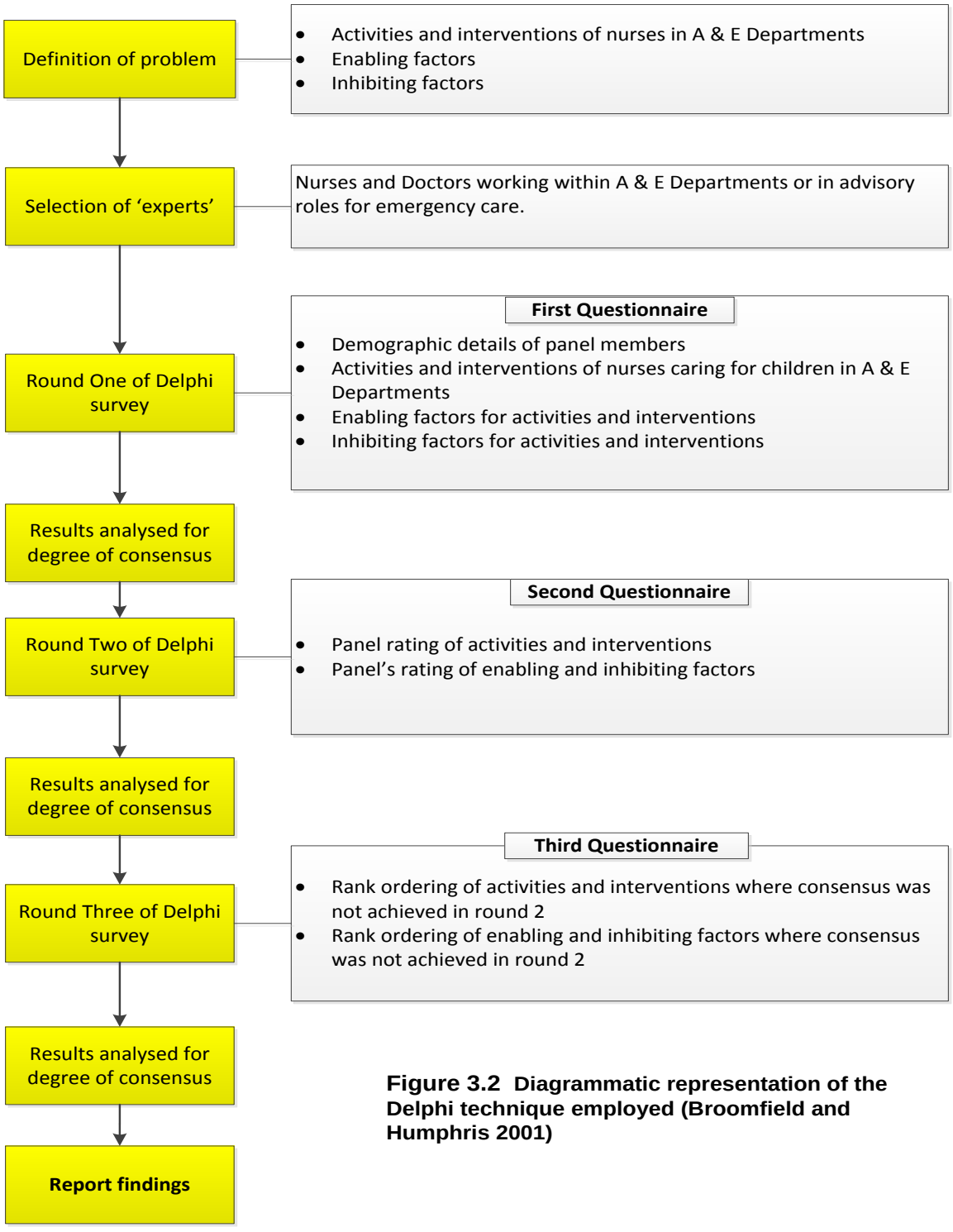


Figure 3.2 Diagrammatic representation of the Delphi technique employed (Broomfield and Humphris 2001)

3.5.1 Sample for the Delphi Survey

A purposive sample was used to select clinicians from the specialist area of emergency care. Purposive sampling was deemed appropriate in order to approach people with the necessary expertise and experience to provide opinion (Bowling 2014). The sample for the Delphi survey was achieved by approaching the advisors of five professional organisations, who could provide access to 'expert' practitioners in emergency medicine (Appendix 1). The organisations included: The Royal College of Nursing (RCN), The Royal College of Emergency Medicine (RCEM), formerly the College of Emergency Medicine (CEM), the Emergency Nurse Consultant Association (ENCA), The Royal College of Paediatrics and Child Health (RCPCH) and the Faculty of Emergency Nursing (FEN). The selection of experts was determined by their knowledge and familiarity with emergency medicine (Goodman 1987, McKenna 1994, Green *et al* 1999) and these five organisations were selected because membership included experts in the field of A&E nursing and medicine and participants were known to be active in the development of professional policies and guidelines regarding A&E care. Further, Jones and Hunter (1995) have postulated that for studies pertaining to clinical interventions, specialists in such areas are appropriate.

Snowball sampling (Griffiths 2009) was also used to access non-members of these organisations. This involved Individuals forwarding information pertaining to the study to colleagues working in emergency care who were then invited to participate in the study. Following an expression of interest, a letter of invitation with details explaining the study (Appendix 2), consent form (Appendix 3) and questionnaire (Appendix 4) were sent electronically to those clinicians who emailed the researcher. Demographic information was also sought in relation to gender, qualification; years' experience and current position of employment (Appendix 5).

To ensure consistency and rigor, 'informed individuals' were recruited based on four requirements of expertise outlined by Adler & Ziglio (1996):

- Knowledge and experience of the subject under investigation
- Ability and willingness to participate
- Time available to participate
- Appropriate communication skills

The first three requirements were emphasised within the participant information sheet and the expressions of interests alongside the responses received during Round One was confirmatory evidence that all participants had appropriate communication skills to participate in the study. There were no clear recommendations for the sample size required for the Delphi survey (Alexander & Kroposki 1999, Burns 1998), although panels between 12 to 60 participants were reported by Keeney *et al* (2011). Clayton (1997) cautioned against recruiting more than 30 panelists as this sample size proved difficult to manage and seldom improved results. Twenty one participants were recruited to Round One of this Delphi survey and represented different organisations and occupational groups. Some participants were members of more than one professional group (Table 3.1).

Table 3.1 Delphi survey Round One participants

Position of employment used by Panelists	Organisations represented by the participants
Advanced Nurse Practitioner Medical Consultant Nurse Consultant Senior Paediatric Nurse Emergency Nurse Practitioner Professional Advisor in Nursing Practice Development Nurse	Emergency Nurse Consultant Association (ENCA), Faculty of Emergency Nursing (FEN), Royal College of Emergency Medicine (RCEM), Royal College of Nursing (RCN), Royal College of Paediatrics and Child Health (RCPCH).

3.5.2 Inclusion criteria

Panelists were required to be:

- A registered clinician with post-registration experience in emergency nursing or certification from the Royal College of Emergency Medicine (Formerly the College of Emergency Medicine) or equivalent.
- Currently employed in the specialty of emergency nursing/ medicine or involved in an educational or advisory role for emergency care.
- Willing to participate in the Delphi Survey.

All participants met these inclusion criteria.

3.5.3 Ethical considerations for Delphi Survey

Ethical approval for the study was obtained from King's College Psychiatry, Nursing and Midwifery Research Ethics Subcommittee (PNM/11/12-41 & PNM/12/13-11) (Appendix 6). The participant information sheet for the Delphi survey (Appendix 7) included an explanation with respect to 'quasi-anonymity' in view that the researcher was unable to ensure complete anonymity because participants would be known to the researcher (McKenna 1994).

Quasi-anonymity was utilised following reports that lack of anonymity causes reluctance among participants to disclose or communicate ideas (Keeney *et al* 2011). This also ensured that information shared with the researcher was not known to other participants thus reducing the potential for subject bias. Participants were given the opportunity to communicate their opinions anonymously without fear of recrimination from peers working within a similar area of expertise (Kennedy 2004). Furthermore, this was also more likely to ensure that participants would be more truthful in their responses. This explanation was included in the participant information sheet (McKenna 1994).

Participants were allocated individual codes that were known only to the researcher for this purpose.

To ensure the ethical principle of confidentiality was maintained, data collected from individual participants, including personal details was stored separately from the research data in a locked filing cabinet and destroyed following data analysis. Access to the research data was restricted to the researcher only. A unique individual code was allocated to each participant and this was used in all correspondence by post.

3.5.4 Pilot study

The questionnaire for Round One of the Delphi survey was piloted with two children's emergency nurses and two Paediatric Emergency Consultants to ensure that issues of validity and reliability were addressed prior to commencing the main study (Bowling 2014). Although the pilot study was optional (Moore 1987), it proved useful in clarifying what was expected from participants prior to the main study. Following feedback from the pilot study, the proposed questions for Round One were modified (Table 3.2). Instead of requesting participants to 'describe' the activities and interventions of importance when caring for children in A&E Department, participants would be requested to 'list' activities and interventions, thus excluding the potential for 'large and unwieldy amounts of information' being produced (Proctor & Hunt 1994, p.1004).

Table 3.2 Pilot study feedback

Delphi Round 1 Pilot study Questions	Delphi Round 1 Questions for Main study
Please describe the activities and interventions of importance that registered nurses should be able to do	Please list the activities and interventions of importance that registered nurses should be able to do when caring for children in

when caring for children in A&E Departments.	A&E Departments.(maximum 15)
Please describe what enables registered nurses to undertake these activities and interventions.	Please list what enables registered nurses to undertake these activities and interventions. (maximum 7)
Please describe what inhibits registered nurse from undertaking these activities and interventions.	Please list what inhibits registered nurses from undertaking these activities and interventions (maximum 7)

3.5.5 Round One questionnaire

The purpose of Round One was to solicit specific information from the Delphi panelists pertaining to nursing activities and interventions. The online 'Survey Monkey' software was used as the platform for the questionnaire (Appendix 4) to minimise completion time and maximise convenience for participants. The questionnaire was short and comprised three questions. Firstly, participants were asked to: *List the activities and interventions of importance that registered nurses should be able to do when caring for children within A&E Departments?* This was followed by questions exploring the enabling and inhibiting factors associated with activities and interventions. The questionnaire was kept short to enhance the response rate (Edwards *et al* 2002) and minimise the risk of creating unmanageable amounts of data (Hasson *et al* 2000).

3.5.6 Round One data collection

A classical Delphi survey normally starts with open-ended questions giving greater freedom to participants in their responses (Keeney *et al* 2011). Further, whilst data can be collected from participants by face to face interview, it was decided that distribution of questionnaires by email enabled the inclusion of a range of experts who were geographically dispersed throughout the UK. In fact, on receipt of consent from the participants, a web-based link was sent via email to allow participants access to the online questionnaire (Appendix 4). Participants were informed that completing the questionnaire would take approximately 30 minutes and were asked to commit to Round Two and Three

(Hasson *et al* 2000). An email reminder was sent to those who had not responded within two weeks.

3.5.7 Analysis of Round One data for consensus

A total of 110 statements pertaining to nursing activities and interventions were identified from the Delphi responses using content analysis (Keeney *et al* 2011). Content analysis was undertaken manually and involved combining similar items from within statements received placing these within a category. The activities and interventions were placed into one of six categories (Figure 3.3) devised from aligning statements of the same content together. The ability to collapse statements into one without changing the meaning (Keeney *et al* 2011) was simplified by the fact that participants were requested to 'list' activities and interventions in preference to describing them. This resulted in statements being more specific with respect to identifying activities and interventions of importance. The activities and interventions reported defined the six categories utilised in subsequent rounds. The terminology used when defining these categories was also aided by those competencies identified in earlier publications (Table 1.3) These comprised the focus of the questionnaire for Round Two (Appendix 8).

Figure 3.3 Categories arising from Round One of Delphi survey.

The categories relate to identified activities and interventions required to meet the following needs of children in A&E Departments.

	Category
1	Physiological and Psychological Development
2	Assessing and Recording Vital Signs
3	Pain Assessment and Management
4	Medicines Management
5	Care of the Sick and Injured Child
6	Family Centred Care

3.5.8 Round Two questionnaire

The purpose of Round Two was to ask participants to review the activities and interventions from Round One and to report these from least important to most important with respect to the care of children in A&E Departments. The questionnaire was structured into three separate parts (Figure 3.4) to ease completion (Keeney *et al* 2011).

Figure 3.4 Component parts of Round Two Delphi survey

Part 1: Activities and intervention of nurses in A&E Departments.
Part 2: Enabling factors associated with activities and interventions.
Part 3: Inhibiting factors associated with activities and interventions.

The questionnaire was constructed to allow participants to see those statements from Round One which were similar in content and confirm that they had been placed in the correct category. Statements were formatted to enable participants to prioritise the importance of each activity on a five point Likert scale (Bowling 2014) from 'least important' to 'most important'. The five point Likert scale was used because any less than five or greater than seven scale points have been associated with greater inaccuracy (Johns 2010). Whilst opponents of a 'middle value' suggest its inclusion can result in failure to maximise the answering of questions, it was included to allow those participants to respond genuinely when they may not have an opinion regarding a specific question (Krosnick *et al* 1996). The Likert scale provided more precise information about the degree of importance that respondents associated with each activity and intervention. This was significant because the aim was to determine those activities and interventions 'most' important when caring for children in A&E Departments. Hall (2001) reported that the absence of a Likert scale in Round One of her Delphi study resulted in participants defining most of the 'knowledge, skills and attitudes' as 'essential'. As a result, she was unable to define if one particular skill was more important than another.

A five point Likert scale was also used to determine those factors that 'experts' considered enabled or inhibited the undertaking of activities and interventions with children in A&E Departments. Participants were requested to rate these from 'strongly disagree' to 'strongly agree'. A total of 67 statements about enabling and inhibiting factors were included in Round Two. The traditional approach of using a postal questionnaire was used for Round Two because respondents reported 'Survey Monkey' to be difficult to navigate. There were concerns that this may have affected recruitment for Round One.

3.5.9 Round Two data collection

Questionnaires for Round Two (Appendix 8) were mailed to panel members four weeks after receipt of all Round One questionnaires. A cover letter (Appendix 9) and stamped addressed envelope were included, explaining how to complete and return it. An email reminder was sent two weeks later to those panel members who did not return their questionnaire.

3.5.10 Analysis of Round Two data for consensus

SPSS: V16 (Statistical Package for the Social Sciences) was used to analyse the data. Statements achieving at least 70% consensus (Sumsion 1998) across the sample were selected and removed from Round Three as the pre-determined level of consensus was achieved for these activities and intervention. Although, there was a lack of agreement within the literature with regard to the level of consensus to employ (McKenna 1994, Crisp *et al* 1997, Green *et al* 1999), Sumsion (1998) recommended 70% and was favoured above earlier researchers who suggested consensus in the region of only 50% (Loughlin & Moore 1979, McKenna 1994). A total of 39 statements achieved consensus at 70% during Round Two.

3.5.11 Round Three questionnaire

The purpose of Round Three was to give the Delphi panelists an opportunity to revise their ratings from the previous round for the statements where consensus had not been agreed. The Round Three questionnaire included statements where consensus of 70% or greater was not achieved. Using the same format as Round Two, the remaining 14 statements were included. Each statement had three additional columns alongside it. The first column reported the individual's response to each statement during Round Two. The second column reported the group response (median value). The third column was included to allow participants to change their response during Round Three if they desired to do so (Keeney *et al* 2011).

3.5.12 Round Three data collection

The Round Three questionnaire (Appendix 10) along with a cover letter (Appendix 11) was posted to participants four weeks after receipt of all Round Two questionnaires. The direction sheet requested participants to reconsider their previous decisions in relation to the statements from Round Two. Participants were requested to return the questionnaire in an enclosed stamped addressed envelope. A reminder email was sent two weeks following postage to those who had not returned the questionnaire.

3.5.13 Analysis of Round Three data for consensus

SPSS: V16 was used for data analysis. Those statements achieving at least 70% consensus across the sample were selected to be included in the final data analysis to determine the mean for all statements from Round Two and Three. These were then ranked from least to most important.

3.6 SEMI-STRUCTURED INTERVIEWS

Although the aim of the Delphi survey was to achieve consensus on the activities and interventions most important as perceived by a panel of experts when caring for children in A&E Departments, it doesn't provide any context for why the chosen activities and interventions were deemed important by the panelists (Keeney *et al* 2001). Semi-structured interviews were conducted after the Delphi survey to provide information that could provide details and context for the Delphi results, provide information on why identified activities and interventions might be seen as important and allow confirmation of Delphi results from other key stakeholders or identification of disparities among different groups. Harris & Brown (2010) suggest that using qualitative research methods to complement the findings from questionnaires has many strengths and weaknesses. Whereas, questionnaires have been described as an objective tool for data collection, results from using such a tool can be threatened by poor questionnaire design, sampling error, biased design or misinterpretation of results (Oppenheim 1992). Similarly, while interviews allow for greater clarity and opportunity for participants to explain their perspectives using their own terminology, the researcher can also manipulate responses by the manner in which questions are asked. Nonetheless, despite both methods having weaknesses, they can both aid in obtaining direct responses from research participants with respect to their understanding, experience and beliefs. The aim therefore of using semi-structured interviews was to investigate the 'insider perspective' of A&E care for children, whilst explaining the quantitative results in more depth (Creswell 2015).

The use of semi-structured interviews gave clinicians deemed 'non-experts' the opportunity to share their personal and subjective view of A&E experiences for themselves and not necessarily an overview of common issues affecting emergency care of children and families that those 'expert' panel would have by

being involved in the organisations from which they were drawn. An interview schedule was developed for both RNs (Appendix 12) and parents/carers (Appendix 13) using open-ended questions and this guided the interviews (Sorrell & Redmond 1995, Kvale 1996, Kvale 2012). Semi-structured interviews were selected as although they have a structure to focus on the research objectives, they also allowed the researcher the opportunity to explore issues beyond that structure while also confirming the outcome of the Delphi survey.

3.6.1 Sample for Semi-structured interviews with RNs

The qualitative component of the study firstly aimed to understand the perception among RNs regarding the activities and interventions considered important by them for the care of children in A&E Departments. The sample was drawn from RNs enrolled in the Faculty of Nursing and Midwifery of a HEI for post-qualification courses. The HEI has over 23,000 students and 2,600 staff and is the main provider of nurse and medical staff education to the local NHS Trusts. All RNs undertaking the post-registration A&E nursing module and autonomous practice in emergency care module were invited to participate in the study.

Registered nurses were purposively selected (Parahoo 2014) until data saturation was achieved as suggested by Morse (1991) and Bowling (2014). Data saturation refers to the point by which no new data becomes available during the interview with participants and is considered the gold standard by which the size of a purposive sample is determined (Guest *et al* 2006). This sampling approach ensured that the views of RNs who had experience in caring for children in A&E were recruited to the study. Whilst acknowledging that there are no guidelines for determining nonprobability sample sizes (Guest *et al* 2006), a target sample of 20 participants was proposed at the start of the study.

However, data saturation was achieved after transcribing the interview recordings from 18 RNs.

The recruitment of RNs included firstly the distribution of a participant information sheet (Appendix 14) to all students completing the emergency care and autonomous practitioner module at the local HEI. Any RN with post registration experience in emergency nursing, willing to participate in a semi-structured interview were permitted to participate in the study. Recruitment involved visiting the students and informing them of the study with permission from the module leader. Students were then advised to email the researcher or inform the module leader if they were interested in participating in the study. Following expressions of interest, a suitable time was arranged for the interview to be undertaken that caused minimal disruption to the study. To assist with the recruitment process care was taken to ensure that nursing and university personnel were familiar with the study. This included devising a plan to identify an effective strategy for gaining access to RNs with minimal disruption to their coursework.

3.6.2 Data collection of semi-structured interviews with RNs

Participants were given the choice to be interviewed prior to commencing daily lectures, at lunch-time or at the end of their daily lectures. All participants requested to have their interview before their daily lectures or at lunch-time as this caused less disruption. The interviews were undertaken in a vacant classroom. Whilst there were time constraints with the need for participants to attend lectures that limited their availability; avoiding a fixed duration for the interviews was agreed with the module leader. This allowed for the participants to dictate the interview length. The interviews took between 10 to 30 minutes and were conducted between October 2012 and December 2012.The interviews were semi-structured meaning that the researcher had a selection of pre-defined

questions (Appendix 12) but accompanied this with probing questions to ensure depth and clarity of the information as suggested by Harris & Brown (2010). Additional information pertaining to the professional qualification and length of experience was also recorded.

3.6.3 Sample for Semi-structured interviews with Parents

Semi-structured interviews with parents were conducted within a children's A&E Department of an acute NHS Trust. The Trust provides district general hospital services to a local population of over 460,000 and treats over half a million patients each year. The hospital is set in the midst of a residential area, with two large schools in close proximity. A children's hospital was built on the main hospital site in 2007. During the study, a designated children's A&E Department was opened on this site. With an emphasis on the importance of FCC when caring for children in hospital, it was considered important to involve parents/carers in the study for the identification of those activities and interventions perceived by them as important when their child is in A&E. Sixteen parents were recruited (male=1, female=15) who provided a personal perspective of their experience of the care received by their child with an illness or injury attending the children's A&E Department. Four of the parents also had prior experience of attending mixed A&E Departments locally and this provided an additional advantageous perspective for the study focus.

A similar process to that used for the recruitment of RNs was utilised for the recruitment of parents. A participant information sheet (Appendix 15) explained the purpose of the study and the inclusion criteria for participation. Any parent/carer with experience using the children's A&E Department and willing to participate in a semi-structured interview was recruited. To assist with the recruitment of parents/carers, medical and nursing staff were informed. This involved the researcher attending morning and evening shift handover for

several consecutive days prior to the study commencing to engage them in the recruitment of parents/carers to the study.

3.6.4 Data collection of semi-structured interviews with parents

The parents were interviewed in a private room within the children's A&E Department. All sixteen parents were happy to leave their child in the care of a healthcare assistant during the interview to minimise disruption. The interviews took between 10 to 45 minutes and were conducted between May 2013 and June 2013.

3.6.5 Ethical considerations for semi-structured interviews

Ethical approvals for the semi-structured interviews were obtained from the National Research Ethics Service Committee North West-Liverpool East (13/NW/0221) (Appendix 16). Approval was also obtained from the local research and development (R&D) department at the NHS Trust where the data were collected. There were several key considerations addressed within the study design, which included:

- Confidentiality
- Anonymity
- Voluntary participation
- Informed consent
- Non maleficence
- Dignity and self-respect

Guidance for undertaking the research study was available as required from the National Institute for Health Research (NIHR). Additionally, the 'Guidelines on Good Practice in Academic Research' devised by King's College London was accessible as needed. Research conduct complied with The Data Protection Act

(1988) and all data pertaining to the study were treated as strictly confidential. The participant information sheet informed participants of issues pertaining to confidentiality and anonymity (Robson 2011). Electronic data were encrypted and stored on a computer which was password protected. Additionally, paper records were stored in a locked filing cabinet to which only the researcher had access. The audiotapes were deleted following transcription and analysis. Any name inadvertently mentioned during interview was deleted during transcription. Disclosure was only permitted if a patient or member of staff was at risk of harm. In the event of this happening, the relevant management body would be informed. Disclosure was not required during the study.

All participants were asked for their permission to tape the interviews to allow for greater engagement with the participants (Kruegar 1994). Recording the interviews also preserved data and allowed the researcher to re-visit the transcripts; while also enhancing the accuracy of the data obtained during the interviews (Al-Yateem 2012). However to ensure participant anonymity, quotes, descriptions and commentary were assigned an identification code, which were used throughout the study (Bowling 2014). Further, care was taken when describing the organisations. At the conclusion of the study a proof reader, bound by a code of confidentiality, reviewed the analysis with the intention of informing the researcher of anything that may have inadvertently breached the researcher's commitment to maintain confidentiality. In the unlikely event of this occurring, these would have been removed. No breach in confidentiality was identified by the proof reader.

For all RNs who volunteered to participate in the semi-structured interviews, written consent was obtained from each participant before commencing the interviews (Appendix 17). It was anticipated that some participants may have felt obliged to participate in the study to please the researcher or that their answers

may be in response to what they believed the study required. Furthermore, there were concerns that some participants may feel personally interrogated during interview and the importance of ensuring this did not occur was acknowledged (Graham *et al* 2006). A conscious effort was therefore made to ensure that the questions asked were non-threatening and all participants were informed that they could withdraw from the study at any time.

A similar process was adopted for the recruitment of parents/carers to the study. Written consent was obtained from each participant before commencing the interviews (Appendix 18). The research process was explained in easy to understand terminology in the participant information sheet given to potential research participants. This included an explanation of ensuring the anonymity of all participants. Data protection was managed in the same way.

The potential for the disclosure of unsafe care during the interview was also considered and a decision was made that in the event of this occurring, this would be reported immediately to the most appropriate person based on the researchers' clinical judgement. Similarly, if care was required for a child whilst their parent was being interviewed, the interview would cease and care initiated as indicated. The interview would only recommence with the approval of the participant, although the opportunity to cease the interview at this time was also explained to participants. Due to the complexities associated with the delivery of both medical and nursing care to seriously ill or injured children, it was considered in their best interests to exclude them from the study. Whilst this had the potential to reduce the reporting by parents of activities associated with life threatening interventions, based on the findings from the Delphi survey, it was considered unlikely for these to be excluded during the semi-structured interviews with RNs.

Because the semi-structured interviews with parents were undertaken in the researchers own healthcare setting, it was made clear to clinicians when recruitment was in progress and when the researcher was acting in their clinical role. This was also aided by the researcher wearing no uniform on the day that data collection was undertaken. This ensured that there was clarity among clinicians and parents pertaining to the researcher's role.

3.6.6 Pilot work for the semi-structured interviews

Questionnaires for RNs were piloted with two members of nursing staff in October 2012. This allowed the researcher to gain experience in presenting questions to participants which enhanced the quality of data collection (Sorrell & Redmond 1995). Similarly, before commencing the interviews with parents, the questions were piloted with two parents in the children's A&E Department in May 2013.

The pilot study found that the questions used were suitable to collect data relevant to the study and that communication from participants became less formal and more spontaneous after the recorder was stopped. However, during consecutive interviews it became evident that this was the result of diminishing awareness of the recorder as opposed to the recorder being stopped. It was not uncommon for participants to engage more actively as interviews evolve (Al-Yateem 2012). As a result, time was permitted for introductions and casual conversation prior to asking the research questions. This 'warm up' period varied between participants but was conducive to developing trust between the participants and researcher, a phenomenon identified by Kondora (1993).

3.6.7 Data analysis of the semi-structured interviews

Framework analysis was used for the management and analysis of the qualitative data arising from semi-structured interviews (Gale *et al* 2013). Developed by Ritchie and Spencer it allows data analysis to run in tandem with collection (Srivastava & Thomson 2009) which aids the assessment of data saturation.

Recordings of the semi-structured interviews were listened to and transcribed following each interview, and then read several times to gain familiarity with the main themes and issues discussed. Using the framework approach, data analysis comprised (1) Familiarisation (2) Developing a theoretical framework (3) Indexing and pilot charting (4) Summarising data in analytical framework (5) Synthesizing data by mapping and interpreting (Ward *et al* 2013, pp. 2426-2428). The interconnected stages guided the researcher systematically through data analysis until categories and themes emerged (Graneheim & Lundman 2004, Smith & Firth 2011). Key phrases made by participants were highlighted for the purpose of staying 'true' to the data (Ritchie & Lewis 2003).

3.6.7.1 Stage 1: Familiarisation

The aim of stage one was to become immersed in the data prior to dividing the transcripts into particular themes (Rabiee 2004). This included allowing ample time to listen to the tapes and make notes pertaining to initial thoughts and impressions. Becoming familiar with the data assisted the interpretation of information provided by participants which was aided by the fact that the researcher had conducted the interviews. Srivastava & Thomson (2009) have suggested that the sheer volume of data produced by qualitative research makes the feasibility of reviewing all data at this stage, difficult. However, by transcribing each interview immediately upon completion and the small sample

size meant that the researcher was able to include all transcripts at this stage. Field notes made following each interview were also referred to by the researcher to ensure the statements from participants were not taken out of context.

3.6.7.2 Stage 2: Developing a Theoretical Framework

During stage two a chart was devised by the researcher whereby recurring themes identified during stage one were added. This approach had the benefit of allowing the researcher to oversee all the data displayed together on one wall. Table 3.3 outlines an example of the themes and subthemes identified from the data.

Table 3.3 Example of initial key themes and sub-themes

Key themes	Sub-themes
Assessment	Need to record vital signs Communication is important Utilise tools to aid assessment Use instinct in practice
Education	Poor pre-registration education Need additional support in practice Not qualified to care for children Limited experience in caring for children

3.6.7.3 Stage 3: Indexing and Pilot charting

In stage three the draft framework devised in stage two was reviewed alongside the transcripts and it was noted at this time which theme corresponded with each section. This resulted in themes and subthemes being refined and further developed (Table 3.4). The aim was for the researcher to become further

immersed in the data to ensure the refinement of themes and subthemes (Ritchie *et al* 2003).

Table 3.4 Key themes following Stage 3

Key themes	Sub-themes
What vital signs are important to record when assessing children and what tools can be used to help assess children	The influence of different tools for the assessment of children. The influence of parental knowledge in aiding the assessment process. The impact of experience in aiding one's assessment of sick children.
The impact of poor paediatric placements in pre-registration nursing education	Concerns that unable to care for children. Inadequate skills/knowledge to recognise sick children. Consequence of inadequate experience

3.6.7.4 Stage 4: Summarising data in analytical framework

Stage four involved reducing data provided by participants into manageable summaries (Ritchie *et al* 2003).

3.6.7.5 Stage 5: Synthesizing data by mapping and interpreting

The final stage involved comparing themes and subthemes against the verbatim transcripts, field notes and audio recordings to ensure clarity with respect to the dataset. This entailed reviewing the entire dataset alongside the summaries to ensure no further refinements of themes or subthemes were required. In fact, no changes were required.

3.7 Reliability and Validity

Because the concept of reliability and validity originated from the natural sciences, the values of both have been questioned with respect to determining the quality of qualitative research (Lewis & Ritchie 2012). Nonetheless, in an effort to help determine the strength of the study data, both will be considered against the chosen approach for the study.

Reliability is concerned with 'the consistency of measurement within a study' (Lacey 2010, p28) or replicability of the study findings if the study were to be repeated using similar methods. Early authors (Ziglio 1996, Clayton 1997) have postulated that the Delphi technique enhances the reliability of a study because of the interactive component and ability to avoid group bias by the nature of the approach. Furthermore, the membership of the expert panel for the Delphi survey, drawn from both nursing and medicine meant that data provided multiple perspectives. This ensured that there was participation within the Delphi survey from different grades of nursing staff working in emergency nursing, in addition to medical experts at consultant level. The use of participants with expertise and an interest in the phenomenon under investigation has also been postulated by Goodman (1987) as caveats to increasing the content validity of a study.

Validity refers to 'how closely what we describe, assess or measure in our research resembles what is in the world or happening in the world' (Griffiths 2009, p.200). The recruitment of experts from emergency medicine, the use of three consecutive rounds and ability to reach consensus have been claimed to strengthen the validity of a study (Rowe *et al* 1991, Hasson *et al* 2000).

Nevertheless, Cornick (2006) suggest that the term ‘trustworthiness’ should be used in preference to validity when determining the effectiveness of a Delphi survey. However, to establish trustworthiness, four key strategies must be determined, namely; credibility, dependability, confirmability and transferability (Polit *et al* 2001). Credibility within this study was enhanced by providing feedback to panelists through subsequent rounds of the Delphi survey. Dependability was achieved by the representative sample of the expert panel that included both nursing and medical emergency expertise. Confirmability was demonstrated by the transparency in describing the Delphi collection and analysis process. Finally, transferability was established through confirming the applicability of the findings which were complemented by the findings from the semi-structured interviews.

The semi-structured interviews recruited RNs directly responsible for the delivery of care to children in both mixed and dedicated children’s A&E Departments. Findings from the Delphi survey aided the researcher to streamline questioning during the semi-structured interviews, which have been claimed to enhance the reliability and validity of results (Hasson *et al* 2000). Interviews with participants were also scheduled at a time that was convenient to them and with no time restrictions. This ensured that time was available to greet and establish a rapport with participants which is conducive towards obtaining valid data (Hutchinson & Wilson 1992). A pilot study was also undertaken to test the relevance of the questions proposed for the semi-structured interviews as those deemed not relevant have been claimed to threat the validity of the data according to Hutchinson and Wilson (1992).

The interviews were transcribed immediately after each interview as any delay can compromise the quality of the research data (Hutchinson & Wilson 1992). A recognised analytical framework was used to manage the data, ensuring that

the analysis was carried out systematically (Lewis & Ritchie 2012). Credibility and 'truth value', referred to as 'internal validity' in quantitative research was achieved by referring to direct quotations from study participants, thus capturing the experiences of service users and providers. Additionally, 'applicability', referred to as transferability in quantitative research was achieved during the semi-structured interviews by reaching data saturation by which no new themes materialised (Guba & Lincoln 1989). Overall, the ability to corroborate between the quantitative and qualitative data allowed for greater validity (Doyle *et al* 2009).

3.8 Summary of methods

This chapter has described the methods adopted for this sequential mixed methods study. Expert knowledge in the form of a Delphi survey using a quantitative approach complemented by qualitative semi-structured interviews to investigate the activities and interventions considered important when caring for children in A&E Departments. This was underpinned by utilising the Framework method for analytical analysis and the research was conducted by adhering to the regulations for undertaking research in an NHS Trust and complying with the appropriate ethical principles for undertaking research. In the following chapter, data from the Delphi survey and text from the transcribed interviews are presented.

CHAPTER 4: Findings

4.1 Introduction

The findings from this sequential mixed method study of nursing activities and interventions associated with children's A&E care are presented in two components according to the methods of data collection utilised for this research project. The quantitative findings from the Delphi survey are presented first. Each round is reported individually to clearly illustrate the themes which emerged and the strength of support for each activity and intervention. The results from the Delphi survey are those which are deemed important by the group of experts in relation to the topic. This is followed by the findings from interviewing nurses and parents about their experience of children's A&E nursing. The study components and sample size are presented in Table 4.1

4.2 Data sources

Table 4.1 Study components and sample size

Data source	Sample size (n) Response rate (%)	Date	Method
Quantitative Research			
Delphi survey round 1	21 (100%)	July 2012	Questionnaire
Delphi survey round 2	21 (100%)	August 2012	Questionnaire
Delphi survey round 3	18 (86%)	Sept 2012	Questionnaire
Qualitative Research			
Semi-structured Interviews	18	Oct – Dec 2012	Semi-structured interviews with nurses
Qualitative Research			
Semi-structured Interviews	16	May- June 2013	Semi-structured interviews with parents

4.3 Findings from the Delphi survey

The Delphi panelists comprised both medical and nursing staff (n=21, 100%). Participants included advanced nurse practitioners (n=6, 28%), medical consultants (n=4, 19%), nurse consultants (n=3, 14%), senior paediatric nurses (n=3, 14%), nursing advisors (n=2, 10%), emergency nurse practitioners (n=2, 10%) and a practice development nurse (n=1, 5%). The majority of the Delphi panelists were female (n=17, 81%) and most panelists were employed in acute NHS hospitals (n=19, 90%). Two panelists (10%) worked as nursing advisors for organisations associated with service development and best practice within A&E Departments. Nineteen panelists (90%) identified themselves as currently working in clinical positions within emergency care. All panelists had clinical experience greater than five years and only one panelist had emergency care experience less than five years (Table 4.2).

Table 4.2 Clinical experience of Delphi Panelists.

Years in Practice	Panelists (n)
Less than 5 years	0
5 – 10 years	1
11- 20 years	9
21 – 30 years	8
Greater than 30 years	3
Emergency Care Experience	**Panelists (n)**
Less than 5 years	1
5 to 10 years	8
11 – 20 years	7
21 – 30 years	5
Greater than 30 years	0

All nursing panelists (n=17, 81%) were educated to a minimum of diploma level. The majority of these (n=16, 94%) had an RN (adult) or equivalent nursing qualification (n=16, 94%). Similarly, most nurses (n=15, 82%) had an RN (child) nursing qualification or equivalent. Five nursing panelists (29%) held first degrees and seven (41%) held a Master's degree. The four emergency

medicine consultants were all members of the Royal College of Emergency Medicine (formerly the College of Emergency Medicine). The response rate for panelists during each round is reported in Table 4.3

Table 4.3 Panelists and response rates for each round.

Panelist	Round One	Round Two – Response Rates (n)	Round Three – Response Rates (n)
Advanced Nurse Practitioner	6	6	5
Medical Consultant	4	4	4
Nurse Consultant	3	3	3
Senior Paediatric Nurse	3	3	2
Emergency Nurse Practitioner	2	2	1
Professional Advisor	2	2	2
Practice Development Nurse	1	1	1
Total	**21**	**21**	**18**

4.3.1 Findings from Round One

A total of 110 data statements were identified from the Delphi questionnaires which yielded six categories. These six categories were adopted following data analysis and recommendations from the RCPCH (2012) 'Standards for Children and Young People in Emergency Care Settings'. There were a total of 32 activities and interventions identified from Round One. The number of panelists who reported each activity and intervention ranged from 2 – 14 and are reported in Table 4.4

Table 4.4 Main categories and their associated activities and interventions from Round One.

	Category	Panelists who reported activity and/or intervention (n)
	Physiological and Psychological Development	
1	Complete a developmental assessment	4
2	Ensures the correct environment for children and their family.	2
3	Effectively communicates with children at various stages of development	1
4	Can instigate 'holding still' with children for clinical procedures which are age appropriate	1
	Assessing and Recording Vital Signs	
5	Is able to triage and initiate prioritisation for treatment	8
6	Able to record and interpret cardiovascular observations and relate these to the age of the child	11
7	Can complete neurological observations and recognise indications for recording these	4
	Pain Assessment and Management	
8	Can undertake and interpret pain assessment using age appropriate tools	8
9	Can implement distraction techniques and play	8
	Medicines Management	
10	Can calculate common paediatric medications according to weight	7
11	Can administer medication safely via oral, IN, IV, SC, IM route	8
	Care of the Sick and Injured Child	
12	Able to identify a sick or injured child using an ABCDE approach and act accordingly in response to abnormal findings	8
13	Implement Basic Life Support as indicated	10
14	Assist with Advanced Life Support Interventions	9
15	Complete a risk assessment for a child with mental health presentations	2
16	Manage a child with an arterial/central line	2
17	Can undertake Venepuncture and Cannulation	8
18	Can insert Intraosseous needle and know indications for such	2
19	Complete and interpret urinalysis and pregnancy tests	3
20	Can recognise and manage common musculoskeletal injuries	6

21	Can apply Plaster of Paris (POP) for skeletal injuries	11
22	Can identify the indications for and instigate cervical inline immobilisation	2
23	Can manage minor wounds including the application of skin glue, steri-strips and sutures	12
24	Can initiate oral rehydration therapy (ORT), Nasogastric (NG) feeds	6
25	Request radiological investigations	4
	Family Centred Care	
26	Liaises appropriately with members of the multi-disciplinary team and primary care specialists	5
27	Can advocate on behalf of child and family	2
28	Can teach child and family the management of common illnesses and injuries	4
29	Can communicate and counsel child and family	9
30	Can retrieve/access information pertaining to immunisations	1
31	Is familiar with the signs of child abuse and actions to be taken in the event of such	8
32	Is familiar with the rights of the child and their consent to treatment	2

Three categories of enabling and inhibiting factors associated with undertaking nursing activities and interventions were reported during Round One. The three categories and their associated factors are reported in Table 4.5 and Table 4.6

Table 4.5 Enabling factors associated with activities and interventions

	Category	Panelists who reported Enabling factors (n)
	Education and Training	
1	Access to in-house training	14
2	Access to post registration education	7
3	Simulation exercises in the ED	1
4	Competency based assessments	3
5	Protected study time	2
6	Mentorship/supervision from senior staff	9
	Qualification and Experience	
7	RSCN/RN(CH) registration	3
8	Experience in caring for children	8
	Unit Related	
9	Safe staffing levels	5
10	Separate area to manage children	4

11	Dedicated paediatric team for children	3
12	Age appropriate equipment	3
13	Clinical guidelines/policies available in ED	5

Table 4.6 Inhibiting factors associated with activities and interventions

	Category	Panelists who reported Inhibiting factors (n)
	Education and Training	
1	Lack of training and facilities	6
2	Absence of protected study time	4
3	Lack of funding	2
	Qualification and Experience	
4	Lack of paediatric experience and knowledge	6
5	Staff resistant to change	7
	Unit Related	
6	Poor morale among staff	4
7	Inadequate staffing levels	7
8	Absence of clinical leadership	3
9	Unsuitable clinical environment to provide care	5

4.3.2 Findings from Round Two

All panelists (n=21, 100%) returned the questionnaires for Round Two. There was consensus of > 70% regarding 23 (72%) activities and interventions reported as either important or most important (Table 4.7).

Table 4.7 Activities and Interventions ranked by consensus

	Category	Activities and Interventions	Consensus (%)
1	**Physiological and Psychological Development**	Ensures the correct environment for children and their family	100%
2	**Assessing and Recording Vital Signs**	Is able to triage and initiate prioritisation for treatment	100%
3	**Assessing and Recording Vital Signs**	Able to record and interpret cardiovascular observations and relate these to the age of the child	100%
4	**Assessing and Recording Vital Signs**	Can complete neurological observations and recognises indications for recording these	100%
5	**Medicines Management**	Can administer medication safely via oral, IN, IV, SC, IM route	100%
6	**Care of the Sick and**	Able to identify a sick or injured child using an	100%

	Injured Child	ABCDE approach and act accordingly in response to abnormal findings	
7	**Care of the Sick and Injured Child**	Implement Basic Life Support as indicated	100%
8	**Care of the Sick and Injured Child**	Assist with Advanced Life Support interventions	100%
9	**Family Centred Care**	Can advocate on behalf of child and family	100%
10	**Family Centred Care**	Is familiar with the signs of child abuse and actions to be taken in the event of such	100%
11	**Physiological and Psychological Development**	Effectively communicates with children at various stages of development	95%
12	**Medicines Management**	Can calculate common paediatric medications according to weight	95%
13	**Care of the Sick and Injured Child**	Can identify the indications for and instigate cervical inline immobilisation	95%
14	**Family Centred Care**	Is familiar with the rights of the child and their consent to treatment	95%
15	**Pain Assessment and Management**	Can implement distraction techniques and play	95%
16	**Care of the Sick and Injured Child**	Can manage minor wounds including the application of skin glue, steri-strips and sutures	95%
17	**Family Centred Care**	Can teach child and family the management of common illnesses and injuries	95%
18	**Pain Assessment and Management**	Can undertake and interpret pain assessment using age appropriate tools	95%
19	**Family Centred Care**	Liaises appropriately with members of the multi-disciplinary team (MDT) and primary care specialists	91%
20	**Care of the Sick and Injured Child**	Can initiate oral rehydration therapy (ORT), NG feeds	90%
21	**Care of the Sick and Injured Child**	Can apply Plaster of Paris (POP) for skeletal injuries	86%
22	**Family Centred Care**	Can communicate and counsel child and family	86%
23	**Care of the Sick and Injured Child**	Complete and interpret urinalysis and pregnancy tests	71%

Ten (77%) enabling factors (Table 4.8) and six (67%) inhibiting factors (Table 4.9) reached consensus at > 70% during Round Two.

Table 4.8 Enabling factors ranked by consensus

	Enabling Factors	**Consensus (%)**
1	Access to in-house training	100%
2	Mentorship/supervision from senior staff	100%
3	Safe staffing levels	100%
4	Age appropriate equipment	100%
5	Separate area to manage children	95%

6	Simulation exercises in A&E Departments	95%
7	Experience in caring for children	95%
8	Clinical guidelines/policies available in A&E Departments.	95%
9	Competency based assessments	86%
10	Access to post registration education	81%

Table 4.9 Inhibiting factors ranked by consensus

	Inhibiting Factors	Consensus (%)
1	Lack of funding	76%
2	Absence of clinical leadership	76%
3	Inadequate staffing levels	76%
4	Lack of paediatric experience or knowledge	72%
5	Staff resistant to change	72%
6	Lack of training and facilities	71%

4.3.3 Findings from Round Three

Three further activities and interventions reached consensus at > 70% during Round Three of the Delphi survey (Table 4.10).

Table 4.10 Additional activities and interventions ranked by consensus

	Category	Activities and Interventions	Consensus (%)
1	Physiological and Psychological Development	Can instigate 'holding still' and 'restraint' for clinical procedures which are age appropriate	76%
2	Care of the Sick and Injured Child	Can recognise and manage common musculoskeletal injuries	76%
3	Care of the Sick and Injured Child	Complete a risk assessment for a child with a mental health presentation	71%

Two additional enabling (Table 4.11) and inhibiting factors (Table 4.12) reached consensus at > 70% during Round Three.

Table 4.11 Additional enabling factors ranked by consensus

	Enabling Factors	Consensus (%)
1	Protected study time	81%
2	RSCN/RN(CH) registration	76%

Table 4.12 Additional inhibiting factors ranked by consensus

	Inhibiting Factors	Consensus (%)
1	Absence of protected study time	81%
2	Poor morale among staff	76%

4.3.4 Outcome from Delphi survey

The Delphi survey found a total of 26 nursing activities and interventions that reached consensus at > 70% across the three rounds as important when caring for children in A&E Departments (Table 4.13). Ten activities and interventions most frequently achieving consensus related to the 'care of the sick and injured child'. Those least frequently identified were related to pain assessment and medicines management.

Table 4.13 Activities and Interventions ranked by consensus

	Category	Activities and Interventions	Consensus (%)
1	Physiological and Psychological Development	Ensures the correct environment for children and their family	100%
2	Assessing and Recording Vital Signs	Is able to triage and initiate prioritisation for treatment	100%
3	Assessing and Recording Vital Signs	Able to record and interpret cardiovascular observations and relate these to the age of the child	100%
4	Assessing and Recording Vital Signs	Can complete neurological observations and recognises indications for recording these	100%
5	Medicines Management	Can administer medication safely via oral, IN, IV, SC, IM route	100%
6	Care of the Sick and Injured Child	Able to identify a sick or injured child using an ABCDE approach and act accordingly in response to abnormal findings	100%
7	Care of the Sick and Injured Child	Implement Basic Life Support as indicated	100%
8	Care of the Sick and Injured Child	Assist with Advanced Life Support interventions	100%
9	Family Centred Care	Can advocate on behalf of child and family	100%
10	Family Centred Care	Is familiar with the signs of child abuse and actions to be taken in the event of such	100%
11	Physiological and Psychological Development	Effectively communicates with children at various stages of development	95%

12	Medicines Management	Can calculate common paediatric medications according to weight	95%
13	Care of the Sick and Injured Child	Can identify the indications for and instigate cervical inline immobilisation	95%
14	Family Centred Care	Is familiar with the rights of the child and their consent to treatment	95%
15	Pain Assessment and Management	Can implement distraction techniques and play	95%
16	Care of the Sick and Injured Child	Can manage minor wounds including the application of skin glue, steri-strips and sutures	95%
17	Family Centred Care	Can teach child and family the management of common illnesses and injuries	95%
18	Pain Assessment and Management	Can undertake and interpret pain assessment using age appropriate tools	95%
19	Family Centred Care	Liaises appropriately with members of the multi-disciplinary team and primary care specialists	91%
20	Care of the Sick and Injured Child	Can initiate oral rehydration therapy (ORT), NG feeds	90%
21	Care of the Sick and Injured Child	Can apply Plaster of Paris for skeletal injuries	86%
22	Family Centred Care	Can communicate and counsel child and family	86%
23	Physiological and Psychological Development	Can instigate 'holding still' and 'restraint' for clinical procedures which are age appropriate	76%
24	Care of the Sick and Injured Child	Can recognise and manage common musculoskeletal injuries	76%
25	Care of the Sick and Injured Child	Complete and interpret urinalysis and pregnancy tests	71%
26	Care of the Sick and Injured Child	Complete a risk assessment for a child with a mental health presentation	71%

4.3.5 Enabling Factors

At the end of the Delphi survey the panelists agreed that 12 factors enabled the undertaking of nursing activities and interventions (Table 4.14). Having a children's nursing qualification reached less consensus with respect to enabling the undertaking of activities and interventions.

Table 4.14 Enabling factors ranked by consensus

	Enabling Factors	Consensus (%)
1	Access to in-house training	100%
2	Mentorship/supervision from senior staff	100%
3	Safe staffing levels	100%
4	Age appropriate equipment	100%

5	Separate area to manage children	95%
6	Simulation exercises in A&E Departments	95%
7	Experience in caring for children	95%
8	Clinical guidelines/policies available in A&E Departments	95%
9	Competency based assessments	86%
10	Access to post registration education	81%
11	Protected study time	81%
12	RSCN/RN(children) registration	76%

4.3.6 Inhibiting Factors

At the end of the Delphi survey eight factors associated with inhibiting nurses from undertaking activities and interventions were identified by the panelists (Table 4.15). These included education, training and organisation of the unit e.g. staffing, qualification and experience of staff.

Table 4.15 Inhibiting factors ranked by consensus

	Inhibiting Factors	**Consensus (%)**
1	Absence of protected study time	81%
2	Lack of funding	76%
3	Poor morale among staff	76%
4	Absence of clinical leadership	76%
5	Inadequate staffing levels	76%
6	Lack of paediatric experience or knowledge	72%
7	Staff resistant to change	72%
8	Lack of training and facilities	71%

4.4 Findings from semi-structured interviews with RNs

Eighteen registered nurses (RNs) undertaking post-graduate education in A&E nursing and autonomous practice were recruited for interview. Most undertook their pre-registration nurse training in the United Kingdom and the majority had greater than five year's post-registration experience (n=13, 72%). The characteristics of the study sample are reported in Table 4.16.

Table 4.16 Characteristics of study sample of RNs

Programme of Study of participants	Gender, n (%)		Total n (%)
	Male	Female	
A & E Nursing	5 (28)	7 (39)	12 (67)
Autonomous Care	2 (11)	4 (22)	6 (33)
Ethnicity	White		12 (67)
	Black Minority & Ethnic group		6 (33)
Pre-registration Education	UK		12 (67)
	Non-UK		6 (33)
Post-registration experience	< 5 years		5 (28)
	5 -10 years		6 (33)
	> 10 Years		7 (39)
Registered Nurse (Child)			2 (11)
Registered Nurse (Adult)			16 (89)

The abbreviation 'RN= Registered Nurse' is used to label verbatim comments from participants.

4.5 The activities and interventions considered important by RNs when caring for children in A&E Departments

The activities and interventions reported most frequently by RNs during the interviews focused on recording observations, patient/family rapport and communication. Further, understanding the physiological parameters to interpret vital signs in children was reported by several participants. The assessments of children in the A&E Department were also reported as important, in addition to play and distraction. The findings from the semi-structured interviews provided

additional information about those activities and interventions identified by the Delphi panelist as important when caring for children in A&E Departments.

The responses could be grouped into the following broad categories which were not dissimilar to those competencies identified by The Scottish Executive (2006) and RCPCH (2012). These included assessment and observations, safeguarding, communication, and technical skills. The technical skills identified as most important by participants included: life support, medicines management, and pain control. Participants reported psychological support in the form of play and distraction to be important for the care of children in A&E Departments.

4.5.1 Assessment and observations

Many of the participants reported a need for nurses to be able to speak with parents and recognise a sick child. Similar to the findings of the Delphi survey, care of the sick and injured child was considered important, however the semi-structured interviews expanded on this activity further by highlighting the need for nurses to question parents to gather important information about medication given at home and use of paediatric early warning scores (PEWS). Three participants referred to PEWS as part of the assessment process. This is illustrated below:

'I think being able to recognise a sick child. I also rely on Mum to help us as she should know if her child is sick……I don't have any children so she knows more than me….we also use the Manchester Triage which is good. We mostly just do temperature, heart rate and sats……..You don't have time to do a full set of observations when there are another 3 or 4 people waiting' (RN3).

'Assessment…..that would include speaking to parents….any medications they may need. We have PEWS charts but they take a long time to complete in triage and they are difficult to understand. Speaking to Mum and Dad is useful as they can tell you a lot… well most of the time' (RN4).

'I have very little experience caring for children and must rely on my A&E skills and adapt these to the care of children. I have no choice as I am expected to assess children and this is really important as you don't want to miss a sick child…….I would hate if a patient became really unwell because I missed something. We use the Manchester triage to help allocate their priority to be seen' (RN5)

‘Assessment is important, how to recognise sick kids. Knowing their PEWS score helps sometimes but you also need to ask Mum what she thinks. You can also find out if they are sick by the Manchester Triage category. If they are red or orange I get a doctor to see them immediately’ (RN12).

‘Assessing them, finding out their early warning scores and their priority using triage. Mum is very useful as she will tell you a lot of information that you may not remember to ask in triage. When I assess an adult I know what to do, what questions to ask but with children it is different and you don’t want to miss anything…..I don’t know what the normal ranges are for children so this makes it harder’ (RN18).

Similar to that found with the Delphi survey, observations were reported by participants to include the recording of vital signs, however this was explained further during the semi-structured interviews and included the ability among RNs to be able to identify respiratory or circulatory problems. Recording vital signs were reported as important by over half of the participants interviewed. Most participants associated the recording of observations as essential to identifying a deteriorating child. For example:

‘The most important is an early set of observations, as they can go off so quickly, it gives me an idea if the child is unwell,….you know we don’t always have the time available in triage to do the observations. The most we can do sometimes is a heart rate and saturations. Recording a temperature can sometime take too long’ (RN5).

‘Respiratory rate is one of the factors that you need to consider, and heart rate, temperature…”making sure obviously crying, pink perfused, good signs, floppy not good…….I try and use my adult experience to spot a sick child as they can have similar signs….like going blue, breathing fast……it is hard to know what the normal respiratory rate is…….I sometime have to ask Mum if she thinks her child is breathing fast because she should know’ (RN13).

‘ABC, basic observations, vital signs, weight,…..I rely on my A&E experience to help me and probably common sense or a ‘sixth sense’ to tell me if the child is unwell…..… you know if they look sick then they are sick…. If the child is happy he will usually be ok, sometimes it’s just look and see as we don’t always have equipment the right size so it makes it hard to do observations’ (RN16).

Some participants reported that observations were dependent on the ability to understand the different physiological parameters in children. The same participants described the need to be able to interpret these to ensure appropriate action could be taken if they were found to be abnormal. This elaborated further on the findings from the Delphi survey with respect to recording vital signs and the factors which may influence their undertaking. For example:

‘We have charts in triage to help us with normal observations as we don’t know them unlike adults. The Manchester triage is also good as it allows you to give a higher priority so the child doesn’t have to wait when they have a temperature’ (RN3).
‘observations are important, they are different, haemodynamic parts of the children compared to adults, and understanding the abnormalities of children’s observations compared to adults, if you are dealing with adults you know the normal variants, with children its different……..I also think they aren’t very used to using the Manchester triage system. There are disadvantages to it also as it gives all children a high priority if they are hot and that’s not right as they could really go to their GP with a temperature’ (RN10).

‘The observations, because children go off so quickly it’s really important because the child may not look very ill but when you do the observations they come up high on the PEWS score. It is difficult to spot a sick child without doing their observations but I do rely on my experience as I have seen a lot of sick children in my time here’ (RN14).

Four participants made reference to the importance of ‘instinct’, ‘common sense’ and ‘sixth sense’ to help in the identification of seriously unwell children. These terms were used in association with less experience in caring for children and were not possible to identify in the Delphi survey because of the quantitative approach of this method.

‘My experience in caring for children is limited……I have to go with my gut feeling sometimes which does help me in assessing children and I guess I developed this during my time in A&E ……it’s a shame we don’t have more training and then I would be better equipped to care for children who are sick’ (RN2).

‘I don’t have much experience in caring for children. Children are very different, especially babies, toddlers and 8 year olds…….just have to use your instinct sometimes, I rely on my experience as an A&E nurse as I have worked here for 10 years’ (RN3).

‘My colleagues tell me to go with my instinct if I am worried about a sick child…..I can’t always tell you what’s wrong but something just bothers me and I get the child seen. I’m usually right and the child needs treatment. I think the lack of training in paediatrics doesn’t help, I use the skills learnt in A & E to help me make decisions’ (RN11).

‘I rely on my A&E experience to help me and probably common sense or a ‘sixth sense’ to tell me if the child is unwell…..it has worked up until now’ (RN16).

4.5.2 Safeguarding

An awareness of the safeguarding policies and interventions needed on identifying child protection issues were reported by three participants. This included the need to undertake an accurate history and ensure what was reported by a parent was consistent with the injury being assessed. Although identifying the signs of child abuse was rated as an important activity in the

Delphi survey, the semi-structured interviews explained this further, emphasising the importance of accurate history taking and use of a checklist as an aide memoir.

For example:

'In terms of interventions, the first thing that springs to mind is an awareness of anything out of the ordinary, you know child protection, in terms of referral for that, I use my experience to determine if I have concerns about an injury. We also can use our check list which is included in the ED card, this give warning signs that alert you to an injury of concern' (RN1).

'We have safeguarding issues, massive safe guarding issues. This is not always possible in triage as we have to see the child quickly and then do observations and then ask some questions…….It does help to have our alert check list as this can be completed quickly and helps identify an injury that is not normal' (RN6).

'It's important to think of their injuries and if it fits with the parent's history of the injury, so it could be a NAI. Trying to find out at triage if the injury is real or if the child was abused is so difficult…….I really worry that I may miss something. I am not a children's nurse so I think it is even more difficult' (RN13).

4.5.3 Communication

The ability to develop a rapport and communicate with both child and family was recognised by several participants as an activity essential to enable nurses to provide care. The interviews were advantageous in providing further details about what effective communication might be. This included the ability to explain emergency treatments and talk to children and their parents. Part of developing a relationship with children and parents included the ability to communicate effectively. For example:

'it's a case of getting yourself introduced, getting the child's confidence, ….almost befriending the child to make them at ease as you possibly can, same as the parents as well, you got to work with the parents,….they come as a package. The parents can be very helpful with giving information but can also be overpowering. The parents are important as the child cannot always tell you what is wrong with them and the parents are good at settling them and calming them down. I really rely on Mum for help and ensure that she can stay with her child if they are unwell' (RN5).

'I think communicating with the family,…telling them what's going on…..just talking to the children. Parents really appreciate information as they sometimes don't understand what is going on when they come to A&E…….. Developing a rapport is really important as Mum is very good at helping with the care ……particularly when the child is staying for a few hours and need encouragement with drinks' (RN7).

‘I suppose the most important thing to gain co-operation, getting them on side because probably the key thing is you have a short time to see them and make a decision, there are skills to being able to do that with a very young child in particular…….A&E is very busy and Mum is really helpful but you have to get them to trust you…..it’s also about sharing with the parents so they can be involved in what’s happening’ (RN8).
‘I think you need to try and build a little bit of rapport with the parents and get them on board…..it’s about keeping them up to date with the waiting times and what is happening’ (RN13).

The importance of communication was reported by three participants. Part of developing a relationship with children and parents included the ability to communicate effectively. For example:

‘Communication,….you need to be able to build relationship with them a lot. When Mum arrives in triage it’s important to explain what you are doing’ (RN1).

‘Good communication is the most important thing, and being able to communicate with the parents and the child is really important. Parents really appreciate when you have the time to sit and explain things to them’ (RN9).

‘It’s important to explain everything to the parents and also offer them the choice to stay with their (RN10).
‘Making sure they understand what is happening, communication skills’, explaining to the parents what’s going on. Parents can be very protective and it’s important that you explain things so you can work together with them. It’s also about sharing the responsibility’ (RN18).

4.5.4 Play and distraction

The need to provide play and distraction was identified in both the Delphi survey and subsequent interviews. The survey participants acknowledged play and distraction as important in an effort to gain trust and co-operation from children. However the problems in utilising play within mixed A&E Departments were illustrated in the semi-structured interviews that were not reported in the Delphi survey. For example, they stated:

‘We can use distraction’ (RN5).

‘Play and distraction techniques…..these are really important in gaining the child’s trust. We have a children’s waiting room but it’s not very nice and we have to use the cubicle for adults as its very busy and we run out of space. If we had a play specialist that would be better’ (RN10).
‘Some children are scared…..as long as you distract them a bit with toys and get down to their level they get better. We always try to have some toys available but this can be hard because

there are lots of adults in the department and we sometime don't have time to use distraction…….I think a children's area which is separate from adults would be better but we don't have that' (RN14).

4.5.5 Technical interventions

Technical interventions refer to those tasks associated with managing equipment, performing skills and knowledge about disease processes (Blowers 1988). For example, activities and interventions associated with the resuscitation and stabilisation of children were reported by three participants as essential for nurses. This is illustrated below:

'Everyone should have knowledge in paediatric life support; basic as a minimum, APLS….that would be the main thing. You need to be up to date with life support skills as children can arrive very unwell and we don't always have paediatric doctors or nurses to help us so we have to know what to do' (RN1).

'Education on resuscitation and dealing with kids……recognising sick kids and dealing with emergencies…..this is really important' (RN12).

We are all made to do APLS and I think this is a good idea as it makes you prepared to deal with a sick child. I think these skills are necessary if you work in an A&E Department with no paediatric back up' (RN14).

Additionally, some participants reported a need for nurses to be able to manage pain and undertake specific treatments specific to certain childhood conditions. For example:

'Wound care and suturing, decent analgesia, making sure they're comfortable…….it's very important to assess their pain and then given the most appropriate pain killers' (RN5).

'Techniques in procedures relating to children…..when children come in with shortness of breath, bronchiolitis the treatment management is very different to adults…..that's why we need training in caring for children with bronchiolitis, croup, asthma' (RN7).

The importance of medication administration and the difference in undertaking this activity compared to adult A&E nursing were also reported. One participant stated:

'Medication administration is different; everything is based on age and weight. You can make a serious drug error if you are not familiar with drug calculations' (RN15).

Another factor identified by several participants was the need for nurses to be familiar with the specific conditions that occur in children who present to A&E Departments. The use of semi-structured interviews highlighted a lack of training and preparation among adult nurses with respect to common childhood conditions. For example, one participant stated:

'What they present with will predict the activities which are important. If I got a child with shortness of breath, you must start treatment immediately…..so it is all age and diagnosis specific. The most important thing I think is knowing what is wrong with the child which is difficult because I haven't had any training. We just learn from each other……it worries me sometimes what is expected of us as adult nurses because we have to care for very poorly kids and we have no experience apart from what we get here' (RN17).

4.5.6 Enabling factors

All participants reported different factors which enabled activities and interventions to be undertaken by nurses. These included: education, training, experience and an appropriately equipped child friendly environment. Over half the participants reported the need for further education and training to enable nursing activities and interventions to be undertaken competently. The semi-structured interviews elaborated on the findings from the Delphi survey with respect to education and training opportunities by suggesting the benefits of rotational opportunities within the paediatric department and additional training in the hospital and university. Participants related additional education and rotational opportunities with greater confidence in handling children and the identification of acute illness. For example:

'Supernumery shifts in paediatrics….some general teaching and experience in there, but again supernumery shifts, but time and experience…. This isn't offered to us and I'm sure it's a money thing but we should be allowed to get some experience as we care for children every day' (RN1).

'More education, I think we need more education, a few study days on the most important things for A&E nurses, basic things, you know those emergency cases, knowledge…..basically more education, more training, university and study days would do' (RN12).

'I think what might be beneficial for our department would be a few weeks rotation to the children's department…every six months just to get some exposure….managers should do this as we did no paediatrics during my nurse training' (RN13).

Participants also revealed a particular need for education and training in mixed A&E Departments. This was a factor not previously identified in the Delphi survey. There was a particular emphasis on a lack of education offered to nurses in mixed A&E Departments. Two participants stated:

'In-house training for paediatrics because it is a problem in mixed departments…..we do have policies in place to help…….if I had extra knowledge, extra training I think I would be able to perform that much better' (RN2).

'There is a lot expected of us to care for children but we get no training…..In mixed A&E departments we get training on adult conditions but I don't know why this doesn't happen with children. Training and education is really needed' (RN10).

One participant described the importance of teaching junior staff. This is illustrated below:

'Once we have given them training….they feel more confident and happier to look after poorly kids……junior staff rely on us to teach them on the shop floor……if I am with a sick child I make sure that I teach my Band 5 nurse so she understands what a sick child looks like' (RN14).

In addition to training and education, participants reported that confidence in undertaking activities and interventions was influenced by personal experience and a suitable environment. The mixed A&E Department was associated with a lack of suitable equipment and an environment less conducive to the care of children and their families. This was best described in the semi-structured interviews in comparison to the findings of the Delphi survey. Participants undertaking the autonomous practitioner course reported greater confidence with activities and interventions. This was due to length of experience and what they described as 'learning on the job'.

'I suppose just experience with children, and that's just gained over time……I feel ok caring for children unlike my junior staff but that's because I have a lot of experience. Training has also changed so they don't get experience caring for children before they come here' (RN8).

'You learn from experience, then you apply….others are quite difficult if you haven't encountered them, you learn from experience, and sometimes you can tell this to your colleague that you encountered this before, so you learn from experience and you share it' (RN11).

Three participants also reported that the ability to gain confidence was influenced by an environment equipped appropriately for children. This

confirmed the importance of ensuring a suitable environment for children that could not be known from the Delphi survey. For example:

'We have got a couple of paediatric cubicles, nice little pictures; they've got some little lamps, some tellies in there. This helps you gain their trust' (RN5).

'The correct environment is important, a nice environment so you can invite the family and child in and they feel comfortable. This is difficult to do sometimes when there are lots of adult patients requiring care and we have to use the paediatric cubicle for adults' (RN9).

The availability of monitoring equipment specifically designed for children was reported to enable the recording of vital signs. Indeed, one participant emphasised this:

'You need to make sure that the equipment is the correct size for the child and that you know how to work them…..we sometimes don't have a saturations monitor and this makes things difficult' (RN13).

Similarly, three participants also described how their personal experience of being a parent influenced their ability to undertake activities and interventions. This was similar to that reported by the Delphi panelists with respect to the importance of experience in enabling the undertaking of activities and interventions. For example:

'People who haven't had their own kids are much more afraid of paediatrics' (RN1).

'I haven't been trained to assess….you know it is just basically one being a mum, two being a nurse and kind of pulling it together; Its actual experience for me as opposed to having been trained. Being a parent has proved very valuable when caring for children in my job' (RN6).

'We get quite a lot of first time parents come in that want advice and I don't think necessarily myself I'm very good person to give that advice having not had children myself' (RN10).

Another enabling factor reported by participants referred to the role of RN (child) nurses within mixed A&E Departments. RN (child) nurses were reported by participants to enable the undertaking of activities and interventions by supporting less experienced staff with education and training. This finding from the semi-structured interviews elaborated on the findings from the Delphi survey that suggested that an RN (child) qualification enabled the undertaking of

activities and interventions. The semi-structured interviews explained further how this could be achieved. For example:

'Be there as a resource and education for other nurses so that everyone feels more comfortable with children' (RN5).

'I'm only a general nurse; I think we could do with a bit more help from paediatric nurses……they can help us care for children properly' (RN6).

'We have a couple of children's trained nurses, they do in-house training…….they do in-house training that really helps' (RN14).

4.5.7 Inhibiting factors

Inhibiting factors focused on the competence of RN (adult) nurses delivering activities and interventions to children. Several participants reported that RN (adult) nurses did not have the necessary skills to care for children. Whilst the Delphi survey reported lack of education and training as inhibitory towards activities and interventions, the semi-structured interviews elaborated on these factors further by describing the absence of a specific nursing qualification i.e. RN (child) as inhibiting activities and interventions. The absence of a RN (child) qualification and lack of training was reported as an inhibiting factor to undertaking activities and interventions. For example:

'I think adult nurses are pretty much…under qualified to deal with children because its separate skills…….I think paediatric patients should have paediatric nurses…..because it is adult branch we concentrate only on adults' (RN1).

'I don't think I know enough about paediatrics to look after them competently….I really don't have the skills to care for children unlike adult patients' (RN2).

'I just think we really need more training. I would have thought that managers have a responsibility to provide training' (RN10).

The quality of student placements during pre-registration training was reported by several participants to inhibit the ability to undertake activities and interventions. This was an issue not identified by the Delphi survey with respect to education and training.

'Well I didn't have any exposure to children as a student nurse' (RN2).

‘I don’t recall doing anything with children ever……I think there was 5 or 6 weeks out in the community with the health visitor and that was more baby weighing, it was more to do with the parents’ (RN3).

‘I don’t think there was an awful lot in our training……I do think that everyone should have better training in our actual pre-registration training towards children’ (RN10).
‘We had a health visitor placement….which wasn’t that beneficial’ (RN13).

Furthermore, the presence of staff with paediatric expertise within mixed A&E Departments was considered by participants to be both an inhibiting and enabling factor. This is illustrated below:

‘If we have paediatric resuscitation, the paediatric team would come down to help us which are great’ (RN1).

‘When we have a poorly child we call out the paediatric team, the paediatric team automatically will take over…….we sort of step back’ (RN3).

‘As soon as they arrive they take over but that’s not obviously giving us the skills to be able to cope with so…..that would be a disadvantage’ (RN13).

Participants also described parents as ‘challenging’ because of their lack of knowledge surrounding their child’s health. It was reported that this inhibited the ability to undertake activities and interventions. For example:

‘Parents have no idea what to do when their child is having an exacerbation of asthma……..parents now a days don’t know how even to manage a temperature. They really need a lot of education and maybe this would prevent them from coming to A&E’ (RN3).

‘They don’t know what to do even when they were told after birth to do this or that and how to manage a child’s temperature’ (RN15).

Further, two participants described how parents were unable to explain what treatment they had given at home prior to arrival to the A&E Department.

‘Parents aren’t always that well informed as to what they’ve given their child and what they haven’t……..even simple things like Calpol’ (RN6).

‘They just decide to bring to A&E and even if they have given medication at home it is usually not the correct dose or they don’t give it regularly enough” (RN11).

The environment of the mixed A&E Departments was also reported by participants as inhibiting towards the undertaking of activities and interventions. Participants reported concern about the unpleasant sights and noises that a

child may experience in the mixed A&E Departments. These were compared with the preferred environment of a children's A&E Department. The semi-structured interviews elaborated on the findings from the Delphi survey. Whereas the Delphi survey reported 'lack of training and facilities' as inhibitory towards activities and interventions, the semi-structured interviews explained this further by referring to the impact mixed A&E Departments have upon activities and interventions when caring for children. For example:

'It's noisy; there can be sounds of other children in pain'……..if they were seen in paediatrics it's better there' (RN1).

'A child that needs to be in resuscitation room, it's not an ideal place when you've got adult arrests and trauma going on around them……..our biggest barrier is our whole environment…..we've got children sitting in the waiting room with adults' (RN5).

'A&E is busy so the psychological support to children is sometimes neglected as too much volume…….adult patients take priority over children" (RN11).

'I think it's the wrong environment' (RN13).

Three participants reported a genuine dislike towards children's nursing. For example:

'We do have nurses that don't want to go near that child and that can cause barriers' (RN5).

'I don't particularly want to look after children, that's why I became an adult nurse' (RN13).

'I think that if the nurse does not like looking after children they will find it hard to care for children' (RN14).

Overall, the interviews with RNs identified activities and interventions, some of which bore similarities with those identified by the Delphi panellists. The findings from semi-structured interviews with parents will now be discussed.

4.6 Findings from semi-structured interviews with parents.

Interviews with parents (Table 4.1) were conducted with 16 parents who attended a children's A&E Department over an eight week period. All participants had parental responsibility; no carers were recruited. The sample comprised parents whose child required a period of observation for more than

four hours within a children's A&E Department. The interview sample is reported in Table 4.17.

Table 4.17 Sample size and characteristics of Parents

Interview Sample		Total n (%)
Gender, n (%)	Male	1 (6)
	Female	15 (94)
Ethnicity, n (%)	White	13 (81)
	Black Minority & Ethnic group	3 (19)
Child's Presenting Complaint, n (%)	Injury	2 (13)
	Illness	14 (87)
A & E Attendances n (%)	First visit	5 (31)
	> 1 visit	11(69)

The abbreviation 'PT= Parent' is used to label verbatim comments from participants.

4.7 The activities and interventions considered important by parents when attending an A&E Department with their child

Three main themes emerged when participants were interviewed about the activities and interventions of nurses in a children's A&E Department: (1) communication, (2) triage/assessment, and (3) play and distraction.

4.7.1 Communication

Thirteen participants reported that communication was the most important nursing activity. Although the Delphi survey reported the ability to 'communicate

and counsel child and family' as important, the semi-structured interviews provided a description of the type of communication undertaken by RNs with both children and parents. This included communication with both child and parent. For example:

'Everyone was very good communicating with him, I was pleasantly surprised….the nurse was very good explaining what's going on. I think it helped because we were in the children's A&E. It is friendlier and less noisy. The nurses were also comfortable with communicating with him' (PT1)

'Communication is important because I don't know half the time what the Doctors' are talking about; the nurse was explaining it in simple terms, it's very important' (PT2).

'Good communication, they quickly understand Mummy, they know what Mummy is thinking…..they sit and talk to you…..explain to you and make you feel ok' (PT4).

'They are really good at communicating, they looked at his t-shirt, showed his dinosaur, they tried to interact with him' (PT5).

Parents described how they lacked knowledge surrounding childhood illnesses and A&E processes. During the semi-structured interviews, parents considered these two issues as important when communicating with them. For example participants stated:

'Because you don't know what's going on with your child's health and the process, I think communication is important……I didn't know what to expect or what I was supposed to when he was having his blood test' (PT1).

'Because we don't really know what they are doing half the time, she explained what she was doing. This is really good' (PT2).

'She explained things to me which was very important. Only for the nurse I would have been lost' (PT5).

One parent revealed that it would be helpful to have better communication from nursing staff. This participant stated:

'Sometimes they talk to you and just say take a seat and wait. I waited four hours with no one to talk to, because of this I didn't know what was happening or what I was expected to do. I appreciate they are really busy but I needed some assistance with my child' (PT4).

Although communication was reported as the most important activity which was consistent with that found in the Delphi survey, the semi-structured interviews

enabled participants to elaborate on these activities further. The interviews enabled parents to describe in detail expectations and challenges associated with communication in hospital. Parents expected information to be truthful and delivered in an understandable manner. For example:

'Cut the jargon, just speak in simple terms as we don't always understand, I think explaining things in simple terms is important' (PT2).

'They explain everything very well, everything that they are doing they tell you what they're doing, it's good especially because it's my first baby, she's only a couple of weeks old so I'm quite nervous giving her to anyone' (PT14).

Another parent reported the importance of communication by comparing it with technical interventions which was foreseen as less important to their child. For example:

'Good communication, an element of role play and a lot of patience is important. Things like blood pressure is a task and it's just to see what the body is doing…..and that is just keeping tabs, the other things are very valued. I mean children won't understand blood pressure' (PT6).

4.7.2 Assessment and observations

The initial assessment and recording of observations were seen as important by less than half of the participants. Five participants reported how they were reassured when their child received an initial assessment on arrival to the A&E Department. They also reported that the confidence displayed by the nurse in handling their child and providing the initial treatment were important activities. This finding elaborated on the activities reported by the Delphi survey with respect to the assessment and care of the sick and injured child. The semi-structured interviews described how parents felt reassured from these activities been undertaken by RNs. For example:

'Assessing and diagnosing what the problem is, recording their temperature and checking if their breathing is ok' (PT1).

'The nurse listened with a stethoscope to see if I needed to give the inhaler. She also explained what she was doing and told me that he wasn't wheezy and that I didn't need to give him his blue inhaler' (PT 3).

‘All nurses should check their temperature and pulse and blood pressure to make sure it is nothing too serious’ (PT4).

‘The nurse undressed my child and examined his chest to see if he was breathing fast. I found this good and then she started him on an inhaler for his asthma’ (PT 7).

Further, it was also important for two parents that the nurse was able to recognise a sick child and take the necessary action. They reported this as reassuring while waiting to see a doctor. For example:

‘Recognising the signs of what could happen, at first we though our child was having a fit so the nurse should be able to recognise the severity of the problem, that’s important’ (PT8).

‘Because if you have to wait 20, 30, 1 hour which I know happens, and if you haven’t been attended to, you need to be sure that your baby is getting some attention and you are doing the right thing’ (PT9).

Participants described the importance of nurses undertaking observations, although reported the need for improvements in this activity. Indeed, one participant stated:

‘Sometimes observations are not completed enough; they could be done more often. It can be really worrying when you can see your child’s temperature going up and no one has checked their temperature’ (PT3).

4.7.3 Play and distraction

Play and distraction were identified by three participants as important nursing activities and corresponded with that reported by the Delphi survey. However, the semi-structured interviews explained the benefits of play and distraction for both child and family. For example:

‘The nurse had very good skills with my child and giving him things to distract him. This is really important as children get scared of hospital. The nurses also involved me in distracting him which I found useful as it also took my mind off what was happening’ (PT1).

‘They tried to distract him during his blood tests. They used toys and books to distract him. I think all nurses should be trained to do this. It didn’t happen when I had to go to the adult A&E with my child last year’ (PT5).

‘This spoke with him at a level he understood which is important. Distraction made him less scared. I also remember one of the sisters teaching, I think it was one of the new nurses how to distract, it was really nice to see that nurses get teaching on this’ (PT13).

4.8 Factors considered by clinicians and parents that enable or inhibit the undertaking of nursing activities and interventions

These factors were primarily associated with providing a knowledgeable and skilled nursing workforce, alongside ensuring a suitable environment for the care of children and their families in A&E.

4.8.1 Enabling factors

Enabling factors reported by parents included the need for dedicated facilities for the care of children. The benefits of a child friendly environment were associated with a more pleasant experience for participants. Further, parents also reported the need for nurses to have experience in managing children of all ages. This finding elaborated on many of the issues that were reported in the Delphi survey. However, the semi-structured interviews did emphasise the importance of experience and familiarity with the needs of children at different stages of development to enable the undertaking of activities and interventions. For example:

‘The friendly environment with lots of toys helps a lot. This helped to distract my son when he was unhappy about being in hospital. I felt happier because my son was happy playing and also reassured me that he wasn’t that poorly’ (PT1).

‘Because we are waiting quite a long time, the toys are good, and sometimes I have two children so this calms them down and the nurse can assess them’ (PT4).

Also, two participants had expectations for nurses to know what they were doing with respect to the different ages of children. For example:

‘It’s quite hard with younger children because they don’t know what they want, so the nurse should be able to try and give them what they want. My child gets very irritable with a

temperature and it is sometime difficult to decide what she wants, but the nurse is very good at recognising the problem quickly' (PT8).

'To be good around babies,…..know what they're doing…..it's nice to know that the nurse is child friendly, things that you wouldn't get in a mixed A&E Department. The nurses in the children A&E are very good at recognising if your child is very unwell and I didn't see this when I went to other A&E departments that see adults and children' (PT14)

In addition to knowledge and experience, personal attributes were reported to enable activities and interventions to be undertaken in A&E Departments. For example:

'The nurse didn't look down on you as a parent, we didn't feel that we were stupid, being over reacting, the nurse was helpful and approachable. These were valuable qualities that reassured me and my husband' (PT1).

'If you need to be seen quicker, the experienced nurse can just help…..experience makes the difference, some have no idea what they are doing and this is frightening. I like to be involved in my child's care and this is encouraged by the older nurse. I think they have more awareness of my needs as well which is good' (PT3).

'Their attitude has to be different to that of adult nurses…..the way they approach, explaining and being absolutely honest without beating around the bush' (PT6).

'They know what they are doing, they are very skilled. This really makes a difference with what treatment you get. I felt safe because of this. I also felt that I could approach the nurses with my concerns and they involved me in the care of my child' (PT15).

The importance of having the necessary equipment to undertake activities and interventions on small children were also identified as important. Indeed one participant stated:

'The children's A&E had the right equipment and the nurses were able to use the equipment quickly when needed…… This is very different to my GP who did not have the appropriate equipment to check my child's oxygen levels' (PT14).

One participant revealed the importance of having adequate staffing to allow nurses to undertake activities and interventions. For example:

'It's very annoying when there isn't enough staff, that's the issue, it's not if the staff are doing their job right or not, it's if there's enough staff that's the issue' (PT10).

4.8.2 Inhibiting factors

The mixed A&E Department was described as an inhibiting factor. In fact, four participants had previous experience of attending a mixed A&E Department with their child. This was described as unpleasant due to the absence of a dedicated waiting room for children and prolonged waits. The experience of attending a mixed A&E Department was emphasised by parents during the semi-structured interviews that was not identified during the Delphi survey. For example:

'If you go to a mixed A&E Department, its horrendous….we had to also wait quite a while' (PT1).

'It is better in the paediatric A&E. It was a long wait when I went to the mixed A&E, it was Saturday night, there were drunks and because I had the other child he was also scared' (PT5).

'My little girl took ages to be seen and she wasn't very well and she was left to lie on the seats in the mixed A&E department for a while before she had her tummy looked at. I prefer the idea of coming to a children's A&E' (PT10).

'It was different in the mixed A&E Department…….I remember my eldest, he got brought in when he was about two with his asthma and there was a drunken man with his lip ripped off……there was blood everywhere and it freaked him out' (PT12).

Documentation was described by one participant as inhibiting towards nurses undertaking activities and interventions. For example:

'I know you have to cover yourself but there is too much paperwork and political correctness. There is not enough of just doing the actual job' (PT10).

4.9 Summary

This chapter has presented the findings based upon the analysis of data from a sequential mixed method study comprising a Delphi survey and semi-structured interviews with nurses and parents. The Delphi survey was used to achieve consensus of the activities and interventions deemed most important when caring for children in A&E Departments. This was complemented by the reports from nurses and parents of their experience within an A&E Department with respect to nursing activities and interventions. The semi-structured interviews

elaborated on many of the activities and interviews reported in the Delphi survey by giving a more descriptive account of the issues associated with their undertaking. The next chapter will discuss these findings with respect to current literature and the contribution to current nursing practice.

CHAPTER 5: Discussion

5.1 Introduction

This chapter discusses the findings from the study and places them in the context of current A&E nursing by comparing and contrasting the themes identified with other empirical work. The implications of the findings are also examined with respect to their relevance to clinical practice. Following a brief introduction and discussion of children within the context of A&E, section one focuses on the findings from the Delphi survey which is subsequently followed by a discussion of the nursing activities and interventions considered important by RNs and parents in a children's A&E Department. Further information from the research builds upon what is already known about children attending hospital for emergency care. Finally the strengths and limitations of the research study are explored.

5.2 Summary of study

The aim of this mixed method study using a sequential explanatory design was to investigate the activities and interventions important when caring for children in A&E Departments because these have not been identified before and there is no current consensus within the nursing profession. The choice of a mixed method design comprising a Delphi survey and semi-structured interviews enabled identification of activities and interventions associated with caring for children in A&E Departments and the factors perceived to enable or inhibit the provision of care in this context. For the purpose of this study, a nursing activity included any 'event that a nurse was engaged in at a given moment' (Williams *et al* 2009 p. 2101), while interventions included any 'nursing actions used to achieve a patient outcome' (Snyder *et al* 1996). However, because the terms 'activities' and 'interventions' were used interchangeably within the scoping review, for the purpose of this discussion, they are defined as actions

undertaken by RNs for the purpose of achieving a patient and/or family outcome. This study originated from a lack of empirical evidence identified in the scoping review with respect to the above. The choice of a sequential mixed method design enabled the perspectives of an expert panel of A&E clinicians and the views of RNs and parents with experience of the A&E setting to be captured. The Delphi survey identified 26 nursing activities and interventions (Table 5.1) that were grouped into one of six categories (Table 5.2). It was not possible to place these in order of priority because there were several activities and interventions that achieved a similar level of consensus and were viewed as being equally important.

Table 5.1 Activities and interventions from the Delphi survey.

	Activities and Interventions
1	Ensures the correct environment for children and their family
2	Can triage and initiate prioritisation for treatment
3	Can record and interpret cardiovascular observations and relate these to the age of the child
4	Can complete neurological observations and recognises indications for recording these
5	Can administer medication safely via oral, IN, IV, SC, IM route
6	Can identify a sick or injured child using an ABCDE approach and act accordingly in response to abnormal findings
7	Can initiate Paediatric Basic Life Support as indicated
8	Can assist with Advanced Life Support interventions
9	Can advocate on behalf of child and family
10	Is familiar with the signs of child abuse and actions to be taken in the event of such
11	Can effectively communicate with children at various stages of development
12	Can calculate common paediatric medications according to weight
13	Can identify the indications for and instigate cervical inline immobilisation
14	Is familiar with the rights of the child and their consent to treatment
15	Can implement distraction techniques and play

16	Can manage minor wounds including the application of skin glue, steri-strips and sutures
17	Can teach child and family the management of common illnesses and injuries
18	Can undertake and interpret pain assessment using age appropriate tools
19	Liaises appropriately with members of the multi-disciplinary team and primary care specialists
20	Can initiate oral rehydration therapy, NG feeds
21	Can apply Plaster of Paris for skeletal injuries
22	Can communicate and counsel child and family
23	Can instigate 'holding still' and 'restraint' for clinical procedures which are age appropriate
24	Can recognise and manage common musculoskeletal injuries
25	Can complete and interpret urinalysis and pregnancy tests
26	Can complete a risk assessment for a child with a mental health presentation

Table 5.2 Main categories associated with activities and interventions.

	CATEGORY
1	Physiological and Psychological Development
2	Assessing and Recording Vital Signs
3	Pain Assessment and Management
4	Medicines Management
5	Care of the Sick and Injured Child
6	Family Centred Care

Subsequent to the Delphi survey, semi-structured interviews were undertaken with RNs (n= 18) and parents (n=16) and the data were transcribed and analysed with the use of the Framework Method (Chapter 4). While data from the interviews identified similar activities and interventions to those identified by the Delphi survey, the interviews provided greater depth and information pertaining to factors that influenced the care provided to children in A&E Departments, namely: Family Centred Care, Education and Training,

Environment and Facilities. These are discussed in the main body of this chapter.

5.3 The context for nursing children in A&E Departments

Whilst publications over the last 20 years (The Audit Commission 1993, Kennedy 2001, DH 2004, DH 2006, RCPCH 1999, RCPCH 2007, RCPCH & RCN 2010, RCPCH 2012) have included recommendations for children to be cared for in dedicated child friendly facilities and by appropriately trained staff, the availability of dedicated children's A&E Departments is limited when compared to mixed A&E Departments. For example, a census undertaken by the Royal College of Emergency Medicine (RCEM), formerly known as the College of Emergency Medicine (CEM) in 2013 identified only 22 dedicated children's A&E Departments in the UK for the training of doctors in Paediatric Emergency Medicine (PEM). Furthermore, at the end of 2013, there were only 222 PEM Consultants in clinical practice, indicating a significant shortfall in comparison to consultants working in mixed A&E Department, for which there are over 200 departments in England alone (Health & Social Care Information Centre 2015a). In fact, the speciality of Paediatric Emergency Medicine (PEM) was only acknowledged in the UK in 2003, unlike the United States that established a training programme for clinicians over 20 years prior (Babl *et al* 2005).

Unfortunately, similar nursing data are not available to substantiate the number of RN (child) nurses working in dedicated children's A&E Departments and mixed A&E Departments in the UK. However, data are available pertaining to the number of standalone specialist children's hospitals, in addition to those categorised as large tertiary children's services in England. This gives some approximation of the number of hospitals with dedicated children's A&E Departments. However, these services account for less than 10 % of hospital

Trusts that provide A&E services in the UK (Health & Social Care Information Centre 2015a, Shribman 2014). As a result, most children attend mixed A&E Departments where there is no assurance that care will be provided by clinicians with a recognised qualification in paediatrics.

There is therefore a need to ensure that RN (adult) nurses responsible for the care of children in mixed A&E Departments are competent in undertaking activities and interventions associated with their care. However, with the exception of the RCPCH 'Standards for Children and Young People in Emergency Care Settings' (2012) and the Scottish Executive 'Emergency Care Framework for Children and Young People in Scotland' (2006), there is limited evidence to inform the skills and competencies required to care for children in A&E Departments. It is therefore anticipated that the findings from this study will underpin knowledge (The Scottish Executive 2006, RCPCH 2012) and could be used to construct an 'inventory' of activities and interventions expected from a nurse when providing care to children in A&E.

5.4 What is already known about this topic?

The scoping review found few empirical studies that investigated activities and interventions associated with the care of children in A&E Departments (Table 2.1). In fact, there were only five studies (Craven & Froman 1993, Holaday *et al* 1999, Hall 2001, Pelander & Leion-Kilpi 2004, Moore & Beckwitt 2006) that recognised the specific needs of children and the importance of providing a skilled workforce in general. Furthermore, only Hall (2001) referred to activities and interventions associated with caring for children in A&E Departments, although these were specific to children following a traumatic injury. There was no consideration towards those activities and interventions associated with the care of children medically unwell.

Hall (2001) used a multi-method approach to determine the knowledge, skills and attitudes required by RNs (n=105) who care for children in A&E Departments following trauma. Although, this was an insightful study with respect to providing a list of skills that RNs should be able to undertake when caring for children in A&E Departments, it did not consider those children acutely unwell. In fact, there was an absence of studies looking at the activities and interventions associated with the care of children with an undifferentiated illness or injury. This is despite a large number of children currently living in the UK with complex medical conditions. The report of the Children and Young People Health Outcome Forum (CYPHOF) have confirmed that of the 15 million under 20 year olds in England, 6% have a disability, 10% have asthma, 66,000 have autism, 60,000 have epilepsy and 23,000 have diabetes (Children and Young People Health Outcome Strategy (CYPHOS 2012). However, activities and interventions associated with such conditions have not been considered in earlier publications or by Hall (2001). Hall (2001) also stated that 'adult trained nurses who can be considered an A&E nurse in the context of caring for adults can be incompetent when caring for children' (Hall 2001, p. 195). Considering all of the above, the current study aimed to identify the activities and interventions associated with the care of children in A&E Departments for the purpose of developing a skilled workforce, bearing in mind that the majority of RNs caring for children in A&E may not have a recognised qualification in children's nursing (RCPCH & RCN 2010, RCPCH 2012). The outcome and implications of the Delphi survey are now discussed.

5.5 Delphi survey: Activities and interventions important when caring for children in A&E Departments

Children have specific care requirements that differ to those of adults in A&E Departments, many of whom require specific care for chronic and life changing conditions (CYPHOS 2012). Furthermore, non-statutory policy guidance from professional organisations in the UK (RCPCH & RCN 2010, RCPCH 2012) and

Department of Health (2006) recommended that nurses responsible for the care of children in A&E Departments must be competent in specific areas of care that differ to that of adults (RCPCH 2012, p. 23). This includes a need for competence in six generic skills specific to the care of critically ill children; namely; recognition of serious illness, immediate treatment, team working, enhanced clinical skills, safeguarding knowledge and communication skills (DH 2006). However, these skills were specific to those children critically unwell and excluded the majority of children who attend A&E Department for a minor injury or illness. Furthermore, there was no empirical evidence to substantiate that these six generic skills are those most important when caring for children in A&E.

It was anticipated that the Delphi survey would produce more meaningful data than previous studies that could be used to confirm those nursing activities and interventions of importance when caring for children with a non-life threatening condition. Furthermore, previous studies were primarily from the United States where pre-registration nursing education differs to that delivered in the UK. Unlike other European and international countries, prospective graduates in the UK currently select a specific field of nursing (adult, child, learning disability and mental health); the applicability of which has been questioned by Willis (2015) for delivering future nursing care. The “Shape of Caring’ review (Willis 2015) identified a need for a review of current nursing education and training to ensure that RNs in the future are suitably equipped to care for different client groups. It alludes to revisiting the return of the RN with ‘generic’ skills to care for patients of all age groups. This could be considered a solution to the current situation whereby the care delivered to children in mixed A&E Departments is provided by non-children’s trained nurses.

Twenty-one ‘experts’ from throughout the UK participated in the Delphi survey and inclusion criteria ensured that the contribution made by participants were from those who had experience of caring for children in A&E Departments. Although, the list of 26 activities and interventions provided by the panelists included tasks associated with the delivery of emergency interventions, it also included activities and interventions involved in supporting the psychological needs of children and their families in hospital. For example, the Delphi survey reached consensus at > 70 % as important for activities such as; ensuring the correct environment and distraction, advocating for child and family and the importance of communicating with children at various stages of development. The importance of attending to the psychological aspect of care for children and their families was not defined as a core competency in earlier publications (Table 3.1). Furthermore, whereas the Department of Health (2006) suggested ‘recognition of serious illness’ as a skill of importance, the Delphi survey was more precise in defining how this can be achieved e.g. recording and interpreting cardiovascular observations, distinguishing normal from abnormal observations and competence in the ABCDE approach to assessment. However, this finding may have been influenced by the number of RN’s recruited to the Delphi survey that had a children’s nursing qualification (n=9) which accounted for half of the panelists in Round Three. Nonetheless, the activities and interventions reported were distinct to those associated with the care of adults in hospital in that they acknowledged the social and cultural needs of children as suggested by many reports and documents that advocate for the provision of FCC (Clothier 1994, DH 1991a, DH 1997). This finding was also dissimilar to that suggested by Oflaz & Vural (2010) where it was found that the delivery of care to patients in A&E Departments was primarily focused on the delivery of technical interventions. In fact, there were eight activities and interventions identified by the Delphi panelists that were exclusively associated with the psychological care of children and their families (Table 5.3), a finding not found in earlier studies or publications.

The philosophy of FCC is perceived by paediatric clinicians as essential for the delivery of quality nursing care to children and families because it reduces any adverse effects associated with hospitalisation (Jolley & Shields 2009). The Delphi survey demonstrated that FCC was important by the activities and interventions reported (Table 5.3) and as such had implications towards the ability to deliver care to children and their families. Similar to that suggested by Coyne *et al* (2011, p.2566), there was recognition from the Delphi panelists of the importance of ensuring the hospital environment was 'less daunting' for children and that a collaborative approach with the multi-disciplinary team be considered. In fact, ensuring the hospital environment is child and family friendly as suggested by the Delphi panelists was considered vital by Coyne *et al* (2011) in the promotion of FCC. The Delphi survey found similar findings to those reported by Coyne *et al* (2011) with respect to those factors important in enhancing FCC. Coyne *et al* (2011) distributed self-reporting questionnaires to RN's (n=250, response rate 33%) and not dissimilar to the Delphi survey found better facilities for families, psychosocial support and better communication as key to delivering FCC.

Table 5.3 Family centred care components from Delphi survey

	Activity & Intervention	**Consensus (%)**
1.	Ensures the correct environment for children and their family.	100%
2.	Can advocate on behalf of the child and family	100%
3.	Effectively communicates with children at various stages of development	95%
4.	Is familiar with the rights of the child and their consent to treatment	95%
5.	Can implement distraction techniques and play for painful procedures	95%
6.	Can teach child and family the management of common	95%

	illnesses and injuries	
7.	Liaises appropriately with members of the multi-disciplinary team and primary care specialists	91%
8.	Can communicate and counsel child and family	86%

Whilst the Delphi survey identified some core skills that A&E nurses will be familiar in undertaking, the panelists also identified some additional activities and interventions specifically related to the care of children alone (Table 5.4). These may be unfamiliar to RN (adult) trained nurses because their pre-registration nurse training will have focused primarily on the care of adult patients (Willis 2015). Furthermore, whilst recording observations may be identified as an A&E skill, recording paediatric observations requires knowledge of normal parameters and familiarity with age appropriate equipment. RN (adult) nurses will therefore need additional education and training to ensure competence in undertaking these activities and interventions with children.

Table 5.4 Example of A&E and Paediatric skills identified by the Delphi survey

A&E Skills	Paediatric Skills
Triage & Prioritise Treatment	Medication Administration
Recording Cardiovascular & Neurological Observations	Distraction & Play
Basic Life Support	Pain Assessment
Advanced Life Support	Oral Rehydration Therapy

Likewise, since the demise of the National Boards of Nursing, post registration preparation in the field of A&E nursing has had no central professional monitoring or regulation, allowing Trusts and HEI's the freedom to formulate training programmes for the local workforce. However, with an absence of statutory regulations, there is no assurance that RN (adult) nurses receive the appropriate education and training to undertake activities and interventions

when caring for children in A&E Departments. This is despite policy intentions of ensuring that sick children in hospital have skilled nurses who have distinct knowledge and skills to care for them (DH 1991a, The Audit Commission 1993). This finding has implications in that the provision of a competently trained workforce may continue to be a problem in the near future. Furthermore, the Delphi survey suggests that RNs were familiar with the components for enhancing FCC but that problems were encountered because of an absence of education and training that were reported elsewhere (Bruce & Ritchie 1997, Petersen *et al* 2004). Enabling factors identified by the Delphi panelists included the need for safe staffing levels, supervision, separate areas to manage children and protected study time. These were similar in many respects to the standards devised by professional organisations in the UK (RCPCH 2012) and USA (AAP 2009), in addition to those identified in international studies that focused on FCC (Paliadelis *et al* 2005, Shields *et al* 2006). This indicates that the panelists had an awareness of the implications of these factors on the delivery of care to children and their families. In addition to the above, assessment and observation of children in A&E were considered important activities by RNs and these will now be discussed in more detail in the subsequent section.

5.6 The activities and interventions considered important by RNs when caring for children in A&E Departments.

5.6.1 Assessment and observations

Data from the interviews with RNs (n=18) suggested that the initial assessment and observations of children in the A&E Department were considered to be the most important activity or intervention. This was demonstrated by the frequency by which these activities were reported. Twelve participants referred to the importance of RNs being competent in undertaking an assessment and observations of children on their initial arrival to the A&E Department. Patient assessment was found by Adler and Icenhour (1993) as the most frequently

observed nursing activity and this may explain why these activities were considered most important when caring for children in A&E. Whilst the findings from the study by Adler and Icenhour (1993) were specific to a large trauma centre in the US, there were reported similarities with the findings of this study with respect to the activities and interventions associated with the role of RNs working in A&E Departments.

Assessment in the current study included the initial encounter between a nurse and child/family for the purpose of determining the child's presenting complaint and severity of illness or injury. The term 'observations' in the current study was used in the context of recording clues to signs of serious illness such as colour, level of consciousness, tone, crying. Observations also include 'vital signs' which refer to the recording of physiological data (e.g. temperature, heart rate/pulse, respiratory rate, blood pressure, capillary refill time). Half of the study RNs (n=9) reported a need to be able to recognise serious illness in children by undertaking an assessment and completing different observations. These findings suggest that there was an appreciation among RNs working in A&E of the importance of recognising serious illness and injury in children, the origin of which resided with their experience as A&E nurses and not with a recognised qualification in children's nursing which is often alluded to in professional publications (RCPCH 2012). The majority of the study RNs (n=16, 89%) did not have a recognised qualification in children's nursing, yet acknowledged the identification of serious illness in children as a priority.

However, identifying assessment and observations as the most important activity or intervention may arise because the first contact a child and family have in an A&E Department normally involves a brief assessment (Johnson *et al* 2014) to determine the child's clinical priority. This process also referred to as 'triage' by some study RNs, involves a system to determine the length of time a

child could wait in the A&E Department before being seen by a clinician (Manchester Triage Group (MTG) 2014). According to the study RNs triage relies on the availability of physiological data (vital signs) and observational signs (e.g. colour, work of breathing, level of consciousness) obtained from the clinical assessment of each child. The importance of recording this data is noted in relevant publications (CEMACH 2008, Thompson *et al* 2009, McBride 2011, RCN 2013) and assessment frameworks, including NICE (2013), SIGN (Scottish Intercollegiate Guidelines Network (SIGN 2014) and the Yale Observation Scale (Teach & Fleisher 1995). However, the success in undertaking such intervention also requires RNs to have the necessary education and training to be able to distinguish normal from abnormal physiological parameters in children. Interview data from the study RNs suggested that there is a deficiency in education and training specific to the care of children in A&E Departments which could compromise this process. The sequential study design enabled interview data to be collected that added contextual information important for understanding issues to be addressed in future policy and curriculum.

Interview data from the study RNs suggest that the practice of recording vital signs was variable among A&E nurses despite recommendations from the RCN pertaining to best practice (RCN 2013). This finding concurs with those of Thompson *et al* (2010) who undertook a survey in the US (n=88, 90% response rate) and found significant variation in the content of patient assessment with respect to vital signs recorded. Heart rate and respiratory rate were the only two vital signs consistently recorded in all departments. In comparison to these data, vital signs considered important by the study RNs were heart rate, respiratory rate and temperature. This may suggest some understanding of the changes in physiological parameters associated with serious illness that are represented by changes in heart rate, respiratory rate and temperature. Nonetheless, what is needed is a standardised process for the assessment of children in A&E which

the study sample alludes to as the absence of such may have implications for patient assessment that is undertaken by RN (adult) trained nurses.
The assessment of children is a complex process because of the variation in normal parameters for vital signs for children of different ages and how they differ from adults. Many earlier publications responding to national tragedies and childhood death have heightened awareness to the seriousness of inadequate assessment and ability to detect deterioration (Fieselmann 1993, Subbe *et al* 2001, National Confidential Enquiry into Patient Outcome and Death (NCEPOD) 2005). Several additional factors identified in the interview data also impacted on the assessment process. These included: parental participation in care, time constraints, competence and educational background of staff to undertake activities. All these factors will now be discussed with respect to the study data.

The interviews with the study RNs identified parents as a valuable source of information that coincided with that reported in previous publications (Brown & Ritchie 1989, Coyne 1995b, Coyne *et al* 2011). Four of the study RNs (22%) reported using information from parents to quantify the physiological and observational data recorded. Involving parents in this way has also been reported by Callery (1995) who accredited mothers with their ability to assess their child and recognise subtle changes in their appearance or behaviour. Whilst using parental information demonstrated some evidence of parental participation within this study, this was at a low level, according to the taxonomy of family centred care, because of a lack of evidence of parental negotiation or involvement in decisions regarding their child's care (Corlett & Twycross 2006). The findings therefore suggest that the use of parents in the assessment of their child may originate from a lack of familiarity among RNs with assessing children, therefore relying on parents for cues of ill health.

The data suggest that the study RNs had their own expectations of the level of participation that they would permit parents, a finding noted in the literature (Callery & Smith 1991, Kirk 2001). Parental participation was sought by several of the study RNs (n=5, 28%) to enable them to complete the initial child assessment. However, none reported that children's views were assessed despite policy recommendations from the Department of Health for children to have 'no decision about me, without me' (DH 2010a). In fact, there was a lack of evidence to suggest that the views of children were considered with respect to their care. Instead, parental participation was reported by the study RNs in preference to that of children. This lack of involvement of children may be due to a lack of policy or may be due to a lack of awareness of this principle arising from the deficiency of children's trained nurses in the mixed A&E Departments included in this study. Alternatively, Coyne (2006) considers that workforce pressure in the form of Clinical Quality Indicators (CQI's) (DH 2010b) encountered by RNs may make it difficult to involve children in decisions about their care. There was a lack of data in this study to suggest that the involvement of children in their care was consistent in A&E. However, it is not possible to say that children's views were entirely disregarded as they may have been mediated through their parents. Nevertheless, parental participation in care was more commonly associated with their child's initial assessment, offering no guarantee that the care provided to children and their families is consistent with the principles of FCC. Therefore, if care continues to be delivered by RN (adult) nurses, pre-registration nurse training needs to appreciate the value and importance of FCC and include this in the curriculum for nurse education. This will ensure that RN (adult) nurses have the knowledge and skills to demonstrate the principles of FCC in practice as is currently not the case.

Another influential factor relating to the assessment and observation of children concerned the time permitted to undertake this activity or intervention. Four RNs (22%) reported the need for all children to be triaged within 15 minutes of arrival

to the A&E Department. This not only suggests awareness among staff of the need to identify serious illness in children, but may also suggest the presence of a target driven environment. There is an expectation that clinicians ensure that the time taken to record initial vital signs, early warning score and pain assessment do not exceed 15 minutes (Crouch & Cooke 2011). This Clinical Quality Indicator (CQI) referred to as 'Time to initial assessment' was introduced in England in 2011 (DH 2010b) in an attempt to standardise and improve emergency care to patients and is not dissimilar to earlier recommendation from the RCPCH (1999, 2007) that required all children to be assessed within 15 minutes of arrival to hospital. Andersson *et al* (2012) however raised concerns with respect to patient care being compromised by efforts to ensure patient flow through the A&E Department through the use of targets. Clarification is therefore required regarding what is best for children and families as the ability to complete the initial assessment can be challenged by parental anxiety and a child's uncooperative behaviour. There would appear to be no consideration with respect to the specific needs of children and families with the introduction of such indicators.

The final issue identified by the RN participants concerned the competence and educational background of staff to undertake the assessment of children. The CEMACH report (2008) stated that 'Doctors, nurses and other medical staff, especially in local services and A&E Departments, should be trained in how to look after sick children' (p.10). However, reports from the interviews indicate that training and education was deficient with respect to caring for acutely unwell children both within pre and post registration nursing education, a finding similar to that of Tippins (2005). Five of the RNs criticised their pre-registration nurse training, reporting that it did not prepare them adequately to care for acutely unwell children. In addition to this, a further five RNs reported an absence of training and education to enable them to care for children while working in mixed A&E Departments. In total, over half of the study RNs (n=10) reported concerns

with respect to their ability to safely deliver care to children acutely unwell in an A&E Department. As a result, additional responsibility is placed upon practitioners to ensure that they pursue the necessary education and training to maintain the knowledge and skills to deliver safe and effective practice as outlined in the nursing an midwifery 'Code' (Nursing and Midwifery Council (NMC) 2015). Whilst it may be expected that RNs pursue additional training to enable them to understand their role as A&E nurses, this does not account for the absence of appropriate training and education during pre-registration nurse training. A review of the pre-registration nursing curriculum is therefore required to ensure that new graduates have the necessary knowledge and skills to work in mixed A&E Departments where the majority of children attend for emergency care. This should also include education pertaining to paediatric early warning scores (PEWS) and triage assessment which will now be discussed and for which particular concerns were raised by several of the study RNs.

5.6.2 Paediatric Early Warning Scores (PEWS)

In an effort to complete the assessment and triage of children, three of the study RNs (17%) reported using PEWS for the identification of abnormal physiological data (heart rate/pulse, blood pressure, temperature, oxygen saturations). Furthermore, although only a small purposive sample of RNs was recruited, the use of PEWS was reported as useful for the identification of serious illness in children. However, the interview data also suggest that practice was variable among RNs with respect to the tools utilised for the identification of serious illness in children. This included variable practice among RNs in the use of PEWS and conventional triage tools such as the Manchester Triage System (MTS), the latter being deemed superior for prioritising care for children in A&E Departments (Seiger *et al* 2013). However, although PEWS are not advised for the prioritisation of care in A&E Departments (Burch *et al* 2008), the findings suggest the continued use of PEWS by RNs when undertaking the initial assessment of children in A&E. There is no evidence within the literature to

suggest that PEWS delivers better outcomes for patients compared to conventional triage tools and in fact are more familiar to clinicians working in inpatient paediatric units (Day & Oldroyd 2011, Pearson & Duncan 2011, Seiger *et al* 2013). As a result, there is lack of clarity associated with the recording of PEWS and their suitability as a triage tool in A&E Departments (Rowland 2013).

There are also negative views associated with PEWS that stem from anecdotal reports that they increase nursing workload instead of improving patient outcomes, thus reducing confidence in the use of such tools among clinicians (Rowland 2013). An additional concern among a small number of the study RNs (n=4, 22%) are the difficulties in recording multiple physiological parameters when using PEWS compared to the recording of a single physiological parameter (e.g. temperature) for MTS (MTG 2014). In fact, Seiger *et al's* (2013) evaluation of 10 different PEWS with children (n=17,943) attending a large A&E Department in the Netherlands found the expectation to record multiple physiological parameters was impractical in A&E Departments for nurses. Considering the above, it would not be unjust to question the appropriateness of using PEWS during the triage of children in A&E.

The different views reported by the study RNs regarding the use of PEWS may be associated with an absence of education and training in how best to use such tools. In the interview data, these participants associated lack of education and training as inhibiting. Importantly, the interviews with RNs enabled the conversation that highlighted that RNs (n=5, 28%) made clinical decisions based on visual inspection because of lack of familiarity with physiological parameters in children. Six of the study RNs, all of whom worked in mixed A&E Departments on different sites admitted to having these knowledge deficits. In fact, four RNs made reference to using 'instinct', 'gut feelings' and 'common sense' to aid in the identification of serious illness in children. This could suggest some evidence of

‘pattern recognition’ among the study RNs, as noted by Tippins (2005) that resulted from the history or specific signs and symptoms. The opportunity to capture these data was provided by this mixed sequential design and would not have been possible through the use of the Delphi survey alone.

The use of intuitive judgements reported by the study RNs is consistent with findings from earlier studies (Fisher & Fonteyn 1995, Cioffi 1998). However, this finding indicates some risk with respect to the ability among this group of nurses to identify serious illness in children. For example, participants admitted they were unable to distinguish normal from abnormal physiological data and for some were reliant on ‘instinct’ to assist them in making the right decision. This is concerning, considering that an incorrect triage decision resulting from an inadequate assessment, missed symptom or unasked question has the potential to result in increased morbidity or mortality (Johnson *et al* 2014). Nonetheless, despite differences in opinion with respect to the use of PEWS in A&E Departments (Burch *et al* 2008, Day & Oldroyd 2011, Pearson & Duncan 2011, Seiger *et al* 2013) and recommendations to use such tools when assessing children (CEMACH 2008), the findings suggest that RNs had a preference towards using observational data and previous A&E experience to aid the identification of serious illness in children. Three of the study RNs referred to observing for visual cues as indicators of illness (crying, floppy, breathing fast) and wellbeing (happy and pink), not dissimilar to those noted by NICE (2013). In fact, NICE (2013) recommends that children under 5 years of age with feverish illness be assessed for signs and symptoms of serious illness using the traffic light system, and that pulse, respiratory rate, capillary refill time for example are recorded. Some of the signs and symptoms described by NICE were also reported by RN (adult) nurses within the study, suggesting familiarity among these nurses of the signs of serious illness in children. However, there was some inconsistency among the same nurses of how best to prioritise the care for children, despite the use of MTS in all four A&E Departments included in this

study. This will now be discussed alongside the implications of this for the care of children and families in A&E.

5.6.3 MTS for assessing children in A&E Departments

The MTS was used as a triage tool in all four A&E Departments represented in this study, yet staff were ambivalent towards its value in identifying serious illness which was similar to their opinion of PEWS. The MTS is based on a process of assigning each child to one of five categories based on the maximum time they can wait before further assessment: immediate (0 minutes), very urgent (10 minutes), urgent (60 minutes), standard (120 minutes) and non-urgent (240 minutes). The disadvantage of this system is that it relies on the exclusion of specific illness discriminators in contrast to the recording of vital signs when using PEWS which can result in children receiving a lower clinical priority (van Veen *et al* 2008). However, although under-triage has been reported as an infrequent event, the consequences from this occurring are potentially serious (Seiger *et al* 2011).

The study findings suggest a lack of understanding among RNs with respect to the use of MTS and its association with PEWS and the initial assessment of children in A&E Departments. This is further compounded by the need to also include an assessment of children for pain and child maltreatment (Triage Position Statement; CEM ENCA FEN RCN 2011, RCPCH 2012). Regulatory bodies such as the Care Quality Commission exercise close monitoring of pain assessment and safeguarding practice and it could be anticipated that the recording of vital signs becomes neglected to attend to these priorities instead. The significance of this is that some children may receive a clinical assessment that is insufficient to identify serious illness. This has potentially serious implications for achieving safe practice and needs to be addressed in policy and education strategy.

Although there was evidence to suggest that PEWS and MTS were used by some RNs, there was no assurance that they were consistently used by all staff in the four A&E Departments represented in this study. For those A&E Departments where there was lack of consistency in the use of such an 'alert' system, it would appear that escalating concerns regarding a child's clinical condition was dependent on the RN's ability to interpret physiological and observational data. However, when referring to the recording of vital signs as an important activity, several of the study RNs (n=6, 33%) reported lack of confidence with the interpretation of normal physiological data. Similar failures in providing care were highlighted in a recent report from the Parliamentary and Health Service Ombudsman (PHSO 2014) who found 'the frequency of monitoring did not reflect established good practice and was service failure' (p. 15). The serious incident described in this report included a failure in the delivery of care by non-children's trained nurses to a child in a mixed A&E Department. Inconsistencies with monitoring and recording of vital signs in children reported in this study, accompanied by an absence of children's trained nurses within A&E Departments identified in the findings of this study reflect concerns similar to those reported by the PHSO (2014). What was also surprising from this study was that despite the CEMACH report (2008) identifying increased mortality resulting from an absence of appropriately trained staff caring for children, the majority of nurses who participated in the semi-structured interviews had not received formal preparation to care for children in A&E Departments. There is therefore a need to standardise practice among nurses with respect to the monitoring of children in A&E Departments and ensure non-children's trained nurses have the necessary skills to avoid future incidents.

The study showed that different methods for the assessment and observation of children were used by the nurses working in four A&E Departments, none of which was reflective of recommended best practice (RCN 2013). Therefore, despite the importance placed upon these activities in publications (CEMACH

2008, RCN 2013) and by the nurse participants themselves, this study found an absence of any standardised format for the assessment of children in A&E Departments. This resulted in nurse participants making clinical decisions that were influenced by their personal preference towards available assessment tools (PEWS, MTS), waiting times, variable clinical experience and parental knowledge. The study RNs reported that they used parents to aid them in their initial assessment of children in A&E, although there was no evidence to suggest adherence with the principles of FCC as the degree of parental involvement could not be substantiated. The inclusion of RNs as an additional data source in this study via the use of qualitative interviews enabled this important perspective to emerge and was an advantageous element of the study design. The findings from the interviews with parents will now be discussed alongside the issues they present.

5.7 The nursing activities and interventions considered important by parents in A&E Departments.

5.7.1 Communication

In contrast with data from the Delphi survey and semi-structured interviews with RNs that suggest that the initial assessment and observation of children were considered the activities most important when caring for children, thirteen of the study parents (81%) reported clear and honest communication as the activity most important to them during their visit to an A&E Department. Although this study was unable to substantiate the actual performance of nurses, one parent did report that the nurse she had encountered was good at explaining things that were previously poorly explained by the doctor.

Furthermore, communication was reported by the study parents as more important than technical interventions, although this may have been based on

an assumption among parents that RNs were already experts in undertaking technical interventions such as cervical in-line immobilisation, plaster application, wound management and resuscitation. Alternatively, this finding may be the result of only recruiting parents of children with a non-life threatening illness or injury where the initiation of emergency interventions is less of a priority.

The fact that technical interventions took precedence over communication as activities of importance among the study RNs could imply that A&E nurses are often more concerned with providing emergency interventions as suggested by Byrne & Heyman (1997). This corresponds with findings from Woodgate & Kristjanson (1996) who found that nurses had a tendency to concentrate on the more technical components of care. Technical interventions reported as important by participants included; cervical in-line immobilisation, plaster application, wound management and resuscitation. The issue this finding highlights is that communication with children and their families may be neglected as technical interventions take priority because of their association with the physical care of patients (Khan *et al* 2007).

The discussion thus far has concerned the activities and interventions considered important by RNs and parents. It has shown that parents and nurses have different views on which activities and interventions are most important in the care of children in A&E settings. Where the assessment and physiological status is undoubtedly important to determine clinical interventions, these findings raise concerns over the accuracy of assessment practices which may have implications for patient safety. The next section relating to family centred care is discussed as a philosophy that provides the context in which activities and interventions should be undertaken for children and their families.

5.8 Family Centred Care

Family centred care has become an accepted philosophy in children's nursing since the principles were advocated in 1959 following the Platt Report (Ministry of Health 1959). It has been defined as "a partnership approach to health care decision-making between the family and health care provider" (Kuo *et al* 2011, p. 297). The Platt Report stipulated that "parents should be allowed to visit whenever they can and to help as much as possible with the care of the child" (Ministry of Health 1959, p.38). However, there are variable views on the applicability of FCC in A&E Departments as it is more often referred to when discussing inpatient paediatric care. (Coleman *et al* 2003, AAP & ACEP 2006, Power & Franck 2008, O'Malley *et al* 2008, Hemingway 2011, Kuo *et al* 2012). There are additional challenges within A&E Departments that are not usual occurrences in paediatric inpatients units. For example, patient acuity and overcrowding in A&E imposes delays and disruption to care delivered to families (AAP & ACEP 2006). Furthermore, the absence of a previous relationship with families and the acute illness or injury that has resulted in the visit to A&E may make it difficult for nurses to form an effective partnership with the child and family quickly. Lack of familiarity with the philosophy of FCC among RN (adult) trained nurses may also be a contributory factor affecting implementation.

The interview data identified that a small number of RNs (n=4, 22%) involved parents in the initial assessment of their child that was consistent with the literature by Van den Bruel *et al* (2012). For example, the assessment and triage of children in this study was enhanced by parents providing additional information used by the participants in their assessment. This signified evidence of the importance of RNs communicating with parents to enhance their involvement in their child's care as suggested by Hutchfield (1999). This association between parental involvement and patient assessment reported by the study RNs contradicts uncertainties expressed by Hannah and Rodgers

(2002) around the value of family involvement and patient outcomes. However, this type of parental participation was not evident in the descriptions of other activities and interventions identified by parents. It would appear therefore that there is a bi-directional squeeze that limits the development of FCC in A&E Departments; a busy environment and one that is staffed by RN (adult) nurses who are likely to have limited experience of this model of care.

Although there is literature (Coleman *et al* 2003, Coyne 2007, Power & Franck 2008) championing the benefits of providing family centred care, additional challenges within A&E Departments make this difficult. These were noted by the interviewees and included; overcrowding, acuity of patients in A&E and the absence of previous relationship with the child and family which have been previously highlighted by O'Malley *et al* (2008). This is made more challenging by deficiencies in education and training relating to the care of children and their families available to RNs who have responsibility for the care of children in A&E Departments. Six of the study RNs (33%) reported that they were underqualified or lacked experience in caring for children and highlights the need for post-qualification education for RN (adult) nurses in mixed A&E Departments. Such training could form part of the yearly individual performance review (IPR) for all RNs responsible for the care of children in A&E Departments. However, if this is to be successful and family centred care is to become a reality then it must be incorporated into the philosophy for all A&E Departments and not just those dedicated children's A&E services.

The difficulties experienced by RNs with trying to implement FFC in A&E Departments may also be associated with the lack of clarity about its definition and consequently its implementation and evaluation (Kuo *et al* 2012). Conversely, the lack of understanding among parents of what activities and interventions nurses undertake may make the sharing of activities a challenge.

Webb and Cleaver (1991) were of the opinion that A&E nurses did not recognise family centred care to the same level of importance to children's trained nurses, also indicating a need for better education and training for RN (adult) nurses in A&E Departments. The next section will discuss the education and training of RNs responsible for undertaking activities and interventions for children in A&E Departments within a philosophy of family centred care.

5.9 Education and training

Reports from the early 1990's indicated that children up until the age of 16 years have specific service needs that differ to that of adults (DH 1991a, The Audit Commission 1993). These reports also stipulated that sick children need to receive care from skilled RNs who have specific knowledge and skills required to care for children and that differs from those required for the care of adult patients. More recently, the Children's and Young People's Framework published by Public Health England (2015) challenged this age restriction, identifying a need for young people 10 to 24 years to have sufficient support to prepare them for adulthood. However, difficulties with the recruitment of children's trained nurses (RCPCH & RCN 2010, RCPCH 2012) and the continual increase in demand for emergency care (Cowling *et al* 2015) makes it difficult to attend to the specific needs of children in A&E Departments. For example, crowding in A&E Departments has been associated with an increase in mortality rates and delays in the delivery of care to patients (Pines *et al* 2007). Furthermore, overcrowding and time constraints were reported by several of the study RNs (n=4, 22%) to inhibit potential opportunities for them to explain care or involve parents in decisions. Although, this study recruited only a small number of RNs, the use of interviews to inform Delphi survey findings highlighted time constraints and the 'speed' required to undertake activities and interventions as a recurring theme. Furthermore, although the study RNs may have been able to identify those activities and interventions of importance when

caring for children in A&E Departments, the role of the children's nurse in the A&E Department was not always clear.

The study RNs revealed an absence of children's trained nurses in the three mixed A&E Departments where they worked. Further, for those dual trained nurses who were both RN (adult) and RN (child) registered and working in such departments, their responsibility to care of children was not always prioritised above that of adult patients. In fact, their roles and responsibilities differed between departments which could have implications for the safety of children attending these departments. The role of the children's nurse as reported by the study RNs included providing direct clinical care, education and training and supervision of junior nursing staff, although these roles were not always clearly defined. This finding concurs with those reported in 1996 by Bentley who found not only an absence of children's trained nurses in mixed A&E Departments, but concern regarding a lack of appreciation for their role.

The findings from the current study suggest deficits in the provision of care for children in A&E Departments with particular reference to child related provisions in mixed A&E Departments. Similar concerns were raised by the British Paediatric Association (BPA) in 1985 and the subsequent survey by Bentley (1996). The latter study involved the distribution of postal questionnaires to nurse managers to determine their perception of who best should provide care to children in general (mixed) A&E Departments. Similar to Bentley's findings from 20 years earlier, the study RNs reported the absence of a children's trained nurse on duty at all times, suggesting 'tokenism' for those that were employed in mixed A&E Departments. Deficiencies and reasons for deficiencies in care in this study have been captured because of the choice of interview method. The absence of RN (child) nurses resulted in a lack of expertise and care being primarily delivered by RN (adult) trained nurses who reported they were poorly

skilled and unprepared for this responsibility. Disappointingly, it would appear that an absence of RN (child) trained nurses continues to exist in mixed A&E Departments which could compromise the care delivered to children as has recently been the case in the report published by the PHSO (2014).

Lack of knowledge among RN (adult) nurses pertaining to the care of children was also evidenced in this study by their reported lack of familiarity with the interpretation of physiological parameters in children. This is likely to be because the majority of care in mixed A&E Departments is delivered by RN (adult) trained nurses who may be constrained to deliver best care due to omissions in their pre-registration training. This has more recently been alluded to in the 'Shape of Caring' review chaired by Lord Willis (2015) who has made recommendations for a review of pre-registration nursing education in the UK to ensure all RNs have a more 'all rounded' approach to care and more capable of providing care from the 'cradle to the grave'. This review reported that current pre-registration nurse training did not ensure that RNs had the necessary skills to move between different client groups and recommended that future RNs should be able to provide "patient-centred care in a range of settings based on patient needs and pathways" (Willis 2015, p. 42). It is anticipated that this recommendation would ensure that nurses of the future have a more comprehensive set of generic skills to care for all patients, whatever the age. This would reflect training currently provided in many other countries and may aid in minimising the risk imposed by non-children's trained nurses caring for children in A&E.

The issues highlighted in these findings suggest that the major workload for the current A&E workforce is to provide care to adult patients. This may be because children account for only 20% of the daily attendances to mixed A&E Departments (RCPCH 2012), and therefore the emergency needs of other patients supersede theirs. Additionally, the attendance of school age children to

A&E Departments often peak between 9 – 10am and 4 – 5 pm (Health and Social Care Information Centre 2015a, 2015b) and therefore their presence in the A&E Department is less compared to adult patients. The challenge therefore is to create a skilled workforce for the care of children in A&E Departments, a goal hampered by the lack of pre-registration practice experience in paediatric settings reported by over a quarter of the study RNs. According to several of the study RNs (n=7, 40%), the educational requirements of their pre-registration programme concentrated on public health and care of the well child in preference to the management of the acute or seriously ill child. The applicability of current pre-registration nursing placements that ill prepare new graduates to care for acutely unwell children in hospital is therefore questionable.

The study findings suggest that students intent on pursuing a career in A&E nursing may be ill prepared to deliver care to children and thus are unable to 'make sure that any information or advice given is evidence-based including information relating to using any healthcare products or services', an essential standard in the NMC 'Code' (NMC 2015, p.7). Interestingly, this was less of a concern for those RNs that trained outside the UK in countries such as South Africa and the Philippines and who received instruction in all branches of nursing (namely: adult, child, mental health and learning disability) during their pre-registration nurse education. Six of the study RNs that trained outside the UK recounted their experience of caring for children during their pre-registration nurse training and how this prepared them to deliver care to children in mixed A&E Departments. This finding supports recommendations from the Willis Report (2015) for preparing nurses with the necessary skills and knowledge to care for patients of all ages, thus making them more prepared to work in mixed A&E Departments.

In addition to the study identifying an absence of training and education to care for children, there also appeared to be a lack of professional responsibility among participants with respect to seeking further training to acquire the necessary knowledge and skills to care for children. In fact, three of the inhibiting factors identified by the Delphi survey focused on a lack of protected study time, lack of funding and lack of training and facilities. These factors are contextual issues requiring management attention in addition to personal responsibility among RNs to adhere to their professional code of conduct that stipulates that all registrants must “maintain the knowledge and skills you need for safe and effective practice” (NMC 2015, p. 7). These contextual factors were highlighted because of the interviews. This suggests that all RNs working with children even if adult branch trained have a responsibility to ensure they are appropriately skilled to care for children. Whilst managers also have a duty to encourage and facilitate education and training, RNs have a duty to ensure they have the necessary knowledge and skills to deliver care (NMC 2015). However, ownership among the study RNs of the need to maintain knowledge and skills in the care of children was not evident from the study data; instead the findings suggest some blame being placed upon employers and HEI for not preparing them appropriately to care for children. This finding challenges registered nurses pursuing a career in A&E nursing to take ownership for their professional education in adherence with their professional code of conduct (NMC 2015), an issue that will become more pertinent with the introduction of a more stringent validation process that becomes compulsory for all registrants in 2016. This will involve all RNs demonstrating that they practice safely and effectively when caring for children in A&E Departments.

Surprisingly, there remains an absence of any statutory regulations to ensure that mixed A&E Departments have an RN (child) nurse available at all times of the day and night. This is despite a public inquiry (Allit Inquiry) into the death of several children by a non-children’s trained nurse (Clothier 1994) and several

subsequent documents from the Department of Health and professional organisations. For example, the Department of Health (1991a) stipulated that a children's nurse should always be available for consultation, a requirement that has been defined in several professional publications (RCPCH 1999, RCPCH 2007, RCPCH 2012). More recently, the proposed NICE standards for safe staffing in A&E Departments (NICE 2015) also specified that an RN (child) trained nurse should be available at all times in A&E Departments. It is difficult however to feel any confidence that this document will ensure the presence of a children's nurse at all times in mixed A&E Departments, considering that the Court Report (Court 1976) made similar recommendations yet enforcing compliance was unsuccessful. Furthermore, evidence from this study suggests that some RNs admitted lack of competence in their current post with respect to the care of children in A&E Departments, despite this being an expectation of the NHS Knowledge and Skills Framework (Gould *et al* 2007).

In addition to the absence of RN (child) nurses and a request for additional training to underpin activities and interventions for children, evidence from this study suggests that the facilities available for the care of children were not adequate. This will now be discussed with respect to the environmental context for this work.

5.10 Environment and Facilities

The importance of providing a child friendly environment has been discussed in numerous publications extending over fifteen years (Bentley 1996, Dolan 1997, RCPCH 2012). However, despite identifying the benefits of separate facilities for children and the value of play in hospital, many A&E Departments in the UK continue to nurse children alongside adult patients. Findings from this study confirm that this remains the case. Disappointingly, such experiences are not new and have been highlighted in documents extending over the last 15 years

(RCN 1995, Smith 1997, RCPCH 1999, RCPCH 2012). Four of the study parents who had experience of attending a mixed A&E Department with their child, described the difference in facilities compared to those provided in a dedicated children's A&E Department. They reported the absence of a dedicated children's waiting room in mixed A&E Departments, resulting in children being exposed to adult patients with traumatic injuries and those with alcohol intoxication. Additionally, not only were there environmental concerns but the absence of suitable equipment to monitor and assess physiological parameters in children were also highlighted to be deficient within the mixed A&E Departments within this study. Inevitably, this raises concerns regarding the ability to provide safe care for children and identify those seriously unwell or injured.

The study RNs were working in four A&E Departments, one of which was dedicated for the care of children only; the other three were defined as mixed A&E Departments, with responsibility for seeing both adults and children. The study findings demonstrate that the three mixed A&E Departments were unable to ensure facilities that provided audio and visual separation from adult patients (RCPCH 2012). Furthermore, although RNs reported that all three mixed A&E Departments had separate consultation rooms available for children, these were not always utilised for the sole purpose of providing care to children. This concurs with concerns reported by the Audit Commission in 1996 and contravenes recommendations from the National Service Framework for Children's Services (DH 2004) and more recently by the RCPCH (2012) to provide such. In fact, the three mixed A&E Departments included in this study found children being inadvertently exposed to unpleasant sights and sounds less likely to be associated with children's A&E Departments. This practice may also result from the reported absence of children's trained nurses by the study RNs within the three mixed A&E Departments which is unlikely to change

because of an absence of statutory responsibility for A&E Departments to comply with published standards (RCPCH 2012).

Attempts to deliver best care for children in A&E Departments is further disadvantaged because there has been no new guidance on caring for children in A&E Departments since the publication of RCPCH ‘Standards for children and young people in emergency care settings (2012). In addition, much of the literature (Action for Sick Children 1997, DH 2003, DH 2004, DH 2006) surrounding the specific needs of children published over the last 10 years has become outdated with respect to their strength for improving services for children in the current healthcare climate. In view of this and the findings of this study, a more concerted effort needs to be undertaken by organisations to enhance the number of RN (child) nurses in mixed A&E Departments and ensure the provision of additional training for RN (adult) trained nurses who continue to have responsibility for the care of children in A&E in the absence of an RN (child) trained nurse.

The most recent UK survey of acute healthcare provision for children in A&E Departments was last undertaken by the RCN in 1998 and identified poor facilities for children which have been echoed in these study findings. This dated report found that 61% of A&E Departments had separate waiting rooms and consultation areas for children, although could not guarantee that these were utilised by children only. In addition to the specific environmental needs required for children, there is also a reliance on a skilled workforce that continues to be compromised by insufficient numbers of RN (child) nurses working in A&E Departments, with particular shortcomings in mixed A&E Departments for the reasons outlined by Bentley (1996). Such disparity in the facilities available for children compared with those advised by the RCPCH (2012) demonstrates a need for statutory regulations to ensure hospital Trusts make adequate and

specific provisions. The absence of statutory regulations means that hospital Trusts have no obligation to adhere to standards for best practice but instead are inclined to meet expectation for fear of repercussions from hospital regulators such as the Care Quality Commission. However, although the need for appropriately trained nurses and improvements in A&E Department to cater for the specific needs of children is not unique to this study (DH 1991a, DH 1991b,DH 2006, RCN & RCPCH 2010, RCPCH 2012), findings from the current study suggest that best practice standards (RCPCH 2012) have not been adopted by all A&E Departments.

In the absence of statutory responsibility for hospital Trusts to provide separate children's A&E Departments, it could be argued that mixed A&E Departments do not meet the healthcare needs of children adequately within their current layout and design. Whilst this study has captured the experience of only four parents who had attended a mixed A&E Department and 16 RNs who have recent experience working in similar departments, the interviews did identify that mixed A&E Departments can be problematic for families. The lack of dedicated facilities for children also means that there is less opportunity for nurses to initiate FCC. Family centred care requires an environment that enables negotiation and shared care planning between the family and clinicians (Hughes 2007). Similar findings were reported by the American Academy of Pediatrics and American College of Emergency Physicians (AAP & ACEP 2006) who found that the promotion of family centred care could only be achieved with child and family friendly environments. Therefore, the layout of facilities for children in mixed A&E Departments must be an important consideration for managers when reconfiguring services in the future. Whilst, appreciating that the safety of patients must take priority and may be a determining factor in not separating children from adult services, consideration of a suitable environment for children must be considered to allow for FCC to be facilitated.

The impact of the findings from this study means that future education and training needs to be planned to ensure the nursing workforce have the knowledge and skills to care for children in A&E Departments. Unlike, previous publications that have attempted to report on the competencies for nurses caring for children in A&E Departments (The Scottish Executive 2006, RCPCH & RCN 2010, RCPCH 2012), the inventory is more specific for example in describing the technical interventions and psychological components associated with the care of children and their families in A&E. Furthermore, professional publications (Table 1.3) were not inclusive of those activities deemed most important in the identification of serious childhood illness or those associated with the psychological aspect of caring for children and their families. The inventory can therefore be utilised in A&E Departments for assessing competency among RNs which may be more favourable in clinical areas financially constrained and unable to release staff to undertake training external to the Trust. However, this should not allow managers and educational supervisors to be exempt from engaging and committing to integrating these activities and interventions into the pre and post registration nursing curriculum. ;

To aid this process, a model (Figure 5.1) has been devised that acknowledges the findings from the Delphi survey and semi-structured interviews in a diagrammatic format. Central to the model is the need to acknowledge three key factors that were identified in this study as enabling the undertaking of activities and interventions (Family centred care, Education and training, Environment and facilities). Firstly, the importance of providing an environment that is suitably equipped to care for children was found to be an important enabling factor in providing care for children in A&E. Managers need to be committed to ensuring that children receive care in an environment that is visually and audibly separate from adult patients. Additionally, these clinical areas should be reserved for the exclusive care of children and not be utilised for adult patients when demand for care exceeds capacity within A&E as the absence of age appropriate facilities

can influence the ability to implement FCC. Secondly, the study found that RNs had their own expectations regarding the level of participation permitted by parents and there was an absence of appreciation for the contribution FCC makes to children and their families in hospital. Therefore, FCC needs to become more embedded within A&E Departments by its inclusion within pre and post registration nursing education. This does not currently exist in pre-registration adult nurse training even though RN (adult) trained nurses remain primarily responsible for the care of children in mixed A&E Departments.

The model also contains an inventory that comprises 26 activities and intervention that can be easily adopted as a training tool for RNs in A&E. However, achieving competence in the 26 activities and interventions is dependent on the availability of education and training. This has been identified as the third enabling factor for the development of children's A&E nursing. Education and training however should not only include support to access educational programmes at HEI's, but include the opportunity to learn in the workplace in a supportive way. This could include for example multidisciplinary training and simulation exercises, whereby clinical experts are invited to supervise the demonstration of activities and interventions. Use of this model will aid in ensuring a nursing workforce with the knowledge and skills to care for children in A&E, whilst appreciating the importance of education and training, family centred care, environment and facilities in delivering A&E care to children and their families.

Although there are some similarities between the activities and interventions outlined in the model of children's A&E nursing (Figure 5.1) and those identified in the consensus work devised by the RCN, RCPCH and Scottish Executive (Table 1.3); the model does present new considerations for RNs working in A&E Departments with respect to these competencies. The importance of

incorporating family centred care was identified as key when undertaking activities and interventions for children in A&E Departments. This was in contrast to the consensus statements that did not consistently report this as important. Furthermore, the model instructs RNs towards those competencies associated with six core areas of care. Within each of the six categories of activities and interventions outlined in the model (Physiological & psychological development, Assessing & recording vital signs, Pain assessment & management, Medicines management, Care of sick and injured child, Family centred care), there are several core competencies that are associated with each activity and intervention. These could therefore be used to inform an educational curriculum for RN's to enable them to achieve competence in caring for children in A&E Departments. Furthermore, a comparison of the activities and interventions within the model and those identified in the consensus statements (Table 1.3) indicates that many of the competencies remain as pertinent today as they did 10 years ago. However, a model of education has not previously been devised until now that incorporates these competencies to streamline the delivery of care to children in A&E Departments.

The model also identifies several organisational issues associated with education, training, facilities and the environment that until now have not been identified as inhibitory towards the undertaking of activities and interventions. However, RNs and parents reported the absence of such as inhibitory towards the delivery of care to children in A&E Departments. Whilst the consensus statements have some similarities with the activities and interventions reported in the model, they did not correlate these factors with success in achieving competence in nursing activities and interventions pertaining to children's A&E care. The ability to achieve competence in activities and interventions associated with the care of children in A&E Departments requires additional education and training in an environment that is conducive to the care of children and their families. This includes the availability of suitable equipment

and facilities for the examination of children at different stages of development. These organisational challenges need to remain a priority among RNs within mixed A&E Departments if one is to succeed in gaining expertise in activities and interventions important when caring for children in A&E Departments. These therefore need careful consideration to enable the model's successful implementation as an educational tool.

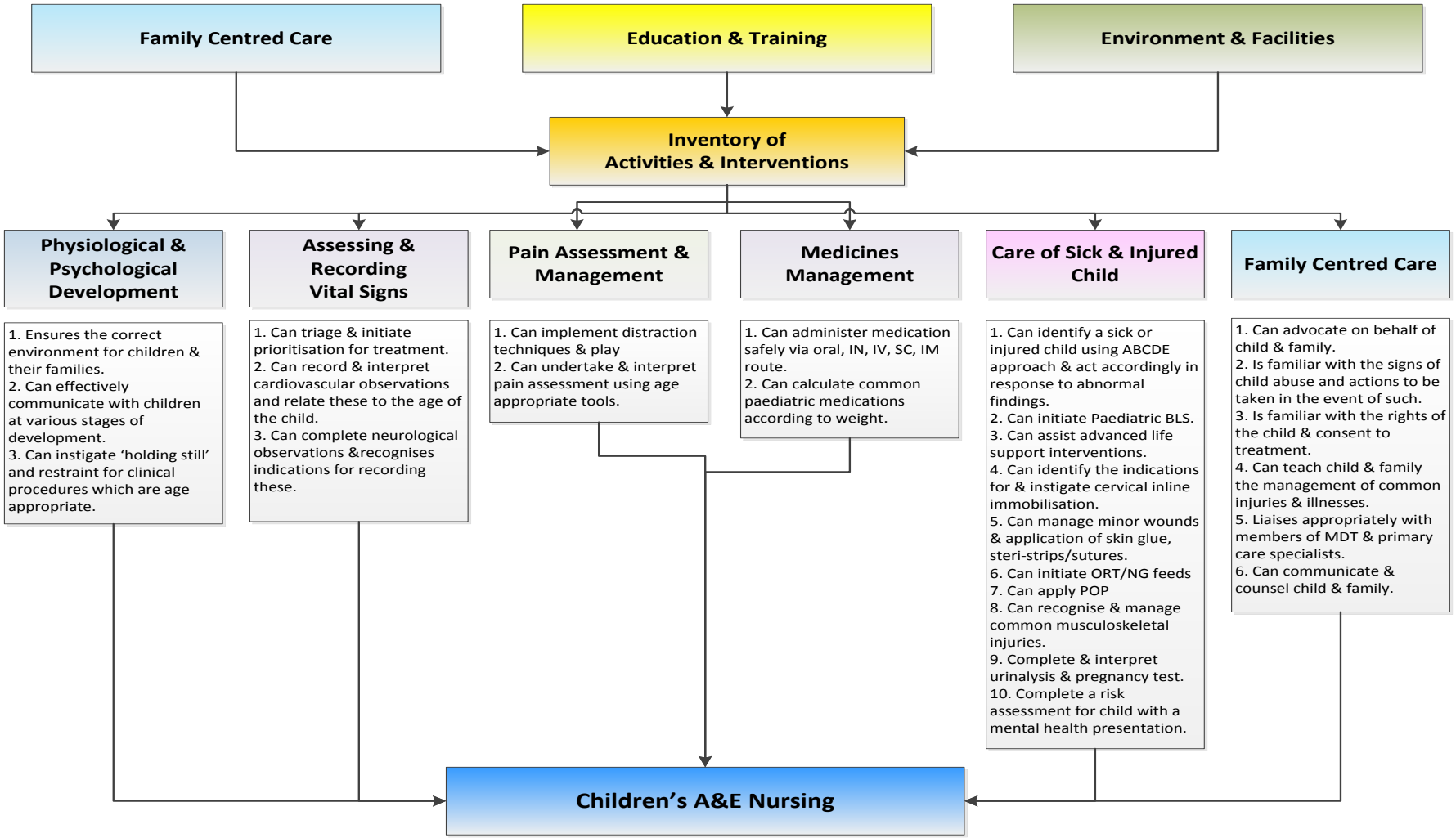


Figure 5.1 Model of Children's A&E Nursing

5.11 Strengths and limitations of the study

The strength of this sequential mixed method study was that it used a Delphi survey and semi-structured interviews and included the opinions of service users and providers to determine the list of activities and interventions important when caring for children in A&E Departments. Employing a purposive sample for the Delphi survey ensured that those recruited had an overview of policy issues, expertise and an understanding of nursing issues. This provided a heterogeneous sample of nurses and doctors with relevant but varied experience in different clinical and advisory roles in healthcare as advised by Moore (1987). However, because Delphi panelists were recruited from professional organisations associated with A&E nursing and medicine (RCN, RCPCH, ENCA, RCEM, FEN), it could be argued that they were likely to be the most active and enthusiastic clinicians involved in A&E care. Non-members of the professional organisations may have responded differently.

The nurse participants interviewed were recruited from post-graduate nursing students enrolled in the A&E and autonomous practitioner modules at one HEI. This was a relevant approach because all students enrolled on the above two modules had current or previous experience working in A&E and could therefore be considered representative of A&E nurses. However, because participants were recruited from one HEI, the generalisability of the results is reduced, although the findings could be considered credible if nurses working in A&E Departments are able to recognise and relate to the findings (Patton 2002). The study RNs represented four different A&E Departments and therefore the findings could be considered to reflect issues across different Trusts. However, the recruitment of students from several different HEI's would have strengthened the findings. In addition to this, there is always a risk that participants may report during interview what they think the researcher wants to hear, thus reducing the trustworthiness of the findings. To eliminate the potential for

socially desirable responses the researcher made a concerted effort to avoid socially sensitive questions that are associated with such responses (King & Brunner 2000). It was also explained to participants the importance of being truthful during the interview and that information would remain anonymised throughout the study. Questions were also constructed in such a way to avoid the temptation among participants to provide a correct answer or agree or disagree with a question.

For ethical reasons, parents who participated in the semi-structured interviews were only those that required the services of a children's A&E Department for their child with a non-life threatening injury or illness (Chapter 3). From this population there were only three parents recruited from a black, minority and ethnic group (BME) and non-English speaking parents were excluded. As a result, this may have resulted in a lack of views pertaining to activities and interventions associated with those children with specific cultural needs or those children who are technologically dependent. It is therefore possible that those parents excluded or who declined to participate may have different expectations with respect to the importance of different activities and interventions (Bowling 2014). However, although this study only recruited parents attending a dedicated children's A&E Department, four parents did have experience of visiting a mixed A&E Department with their child. As a result, the sample may not be representative of the wider population of parents attending A&E Departments if it is considered that most children attend mixed A&E Departments in the UK. It is therefore not feasible to generalise these findings beyond the sample investigated.

Additionally, it is difficult to know if parents reported those activities and interventions they observed, or those that they felt were the responsibility of RNs delivering care to their child. Nonetheless, in an effort to maximise the accuracy

of the data received, participants were given ample opportunity to articulate their experience in A&E instead of conforming to any predetermined category of activities and interventions that the researcher may have anticipated. The study is limited because parents were recruited from one children's A&E Department and not from multiple sites with a wide geographical spread and it is acknowledged that experience of emergency care may differ between different A&E Departments. Although, it is impossible to substantiate interview data as reliable, the quality of analysis can be enhanced by the use of audio taping and field notes as suggested by Low (2007) because these allow for iteration and the use of quotations to be included in the findings chapter, permitting the reader to personally evaluate the findings and consider the transferability of these.

It was important to include RNs and parents with everyday experiences of A&E who could provide a perspective and information about the contextual issues that affect family centred care in A & E services. By using a sequential mixed method design a more holistic perspective was achieved of the activities and interventions of importance by the fact that the interviews with RNs and parents added contextual information to the quantitative data obtained from the Delphi survey.

5.12 Summary of chapter

This chapter has provided a discussion of the findings from the research study against available literature pertaining to children's A&E nursing. It shows the existence of variable nursing practice when caring for children, which is not helped by several inhibiting factors that co-exist within mixed A&E Departments. The themes from the findings structured this discussion and an inventory of activities and interventions (Appendix 19) not previously available within the literature pertaining to children's A&E nursing were detailed. A model of children's A&E nursing was devised that encapsulates the three main factors

upon which the inventory of activities and interventions are influenced. The model details the activities and interventions important when catering for children in A&E Departments for the purpose of creating a skilled practitioner in children's A&E nursing. Strengths and limitations that became apparent whilst completing the study were illustrated, in addition to areas for future research.

CHAPTER 6: Conclusions and implications for practice

6.1 Conclusions

Children account for approximately 25% of the daily attendances to A&E Departments in the UK. However, despite this, there has been no consensus within the nursing profession with regard to the activities and interventions most important when caring for children in A&E Departments. This research therefore adds to earlier professional publications that advocate for clinicians with responsibility for delivering care to children to have the appropriate knowledge and skills to undertake such duties. It focuses attention on the variable practice that exists among RNs delivering care to children in A&E that has not been seen before. However, such practice may be a consequence of an absence of training and education pertaining to children's A&E nursing that was identified by the study participants.

With few empirical studies concerning activities and interventions, this study informs A&E clinicians of specific nursing activities and interventions associated with the care of children in A&E Departments. The study findings influenced the design of a model of nursing that juxtaposes contributory factors essential for the delivery of care to children in A&E Departments (Figure 5.1). The model of children's A&E nursing acknowledges that children are cared for in both mixed and children's A&E Departments and that care can be provided by both RN (adult) and RN (child) nurses. However, the absence of training specific to children's A&E nursing means that all RNs should have a set of core skills that reflect the activities and interventions associated with the care of children in A&E. Figure 5.1 is a diagrammatic presentation of such a model that was devised from the study data and captures the findings of the Delphi survey and semi-structured interviews. These should be considered with respect to the variable practice found among RNs when caring for children in A&E

Departments. The inventory of activities and interventions can be used to standardise the skills and competencies among RNs who have responsibility for the care of children in A&E.

The study participants identified three key factors that were considered pertinent in enabling the safe delivery of nursing activities and interventions. These included; developing a skilled nursing workforce with the necessary education and training, the provision of family centred care and the need to provide the environment and facilities to meet the physical and psychological care of children and their families. Inhibiting factors were primarily associated with mixed A&E Departments, whereas enabling factors were associated with the children's A&E Department. The identification of such factors means that this information can be disseminated to A&E clinicians and managers with the overarching aim of improving the service provided to children and their families in hospital. For example, the study alludes to a need for greater appreciation with respect to family centred care, developing a skilled workforce and attention to the environment and facilities. Whilst the availability of literature pertaining to family centred care in A&E was minimal, there is evidence in the literature illustrating the value of family centred care in paediatric inpatient units, and this needs greater acknowledgement among A&E clinicians so it becomes less of an 'alien' concept.

6.2 Implications for practice

The aim of this research was to identify activities and interventions important when caring for children in A&E Departments from the perspective of experts, service users and providers. The Delphi survey resulted in a list of 26 activities and interventions including assessment, communication, technical interventions, medicines management and play. The use of the model for children's A&E nursing will aid in standardising core skills in caring for children in A&E. The

inventory of activities and interventions will be used by the researcher to devise online teaching modules for RNs who work in mixed and dedicated children's A&E Departments to enable them to develop competencies pertaining to the care of children in A&E. Interview data validated this list in terms of the activities and interventions and their perceived importance but also highlighted issues in the conduct of these activities and interventions e.g. knowledge and accuracy of taking observations, use of assessment tools and the availability of essential age appropriate equipment. Difficulties in achieving family centred care in the A&E environment were also acknowledged and this was exacerbated by a lack of child specific A&E Departments. A shortage of children's trained nurses also found that adult trained nurses were expected to fill the gap but may not have had adequate education and training to do this effectively. The study findings were therefore used to devise a model to help practitioners identify areas for development.

6.3 Areas for further research

The model provides evidence to underpin strategic planning in terms of the development of FCC, workforce and environment. The findings could be utilised for the development of competency frameworks or educational resources for RNs caring for children in A&E Departments. Future research could include the development and evaluation of such competency frameworks among RN (child) and RN (adult) nurses caring for children in mixed and dedicated children's A&E Department. Additionally, online modules devised for the teaching of activities and interventions could be evaluated for their effectiveness.

Another suggestion would be for a longitudinal study to measure the competency of RNs entering the speciality of A&E nursing. The assessment of nursing performance with respect to nursing activities and interventions on

graduation, at six months and one year post qualification may aid in determining the need for additional educational support for RNs caring for children.

Whilst the study was constrained in some respects by personnel, resources and finances, it did produce some interesting findings that could be investigated further. One suggestion would include a survey of the experience of children from different geographical areas of the country to determine the activities and interventions they considered to be important when receiving care in A&E Department. This may also illustrate further, whether there are variations in those activities and interventions within different units or teams, in addition to ensuring the voices of children are heard. Children were excluded from participating in the current study.

Finally, an observational study involving time and motion methodology could be utilised to confirm the frequency by which activities and interventions are undertaken by RNs and the involvement of children and families in their care to shed some light on the existence of FCC or if additional support needs to be implemented to make the philosophy of FCC become more enshrined within A&E nursing.

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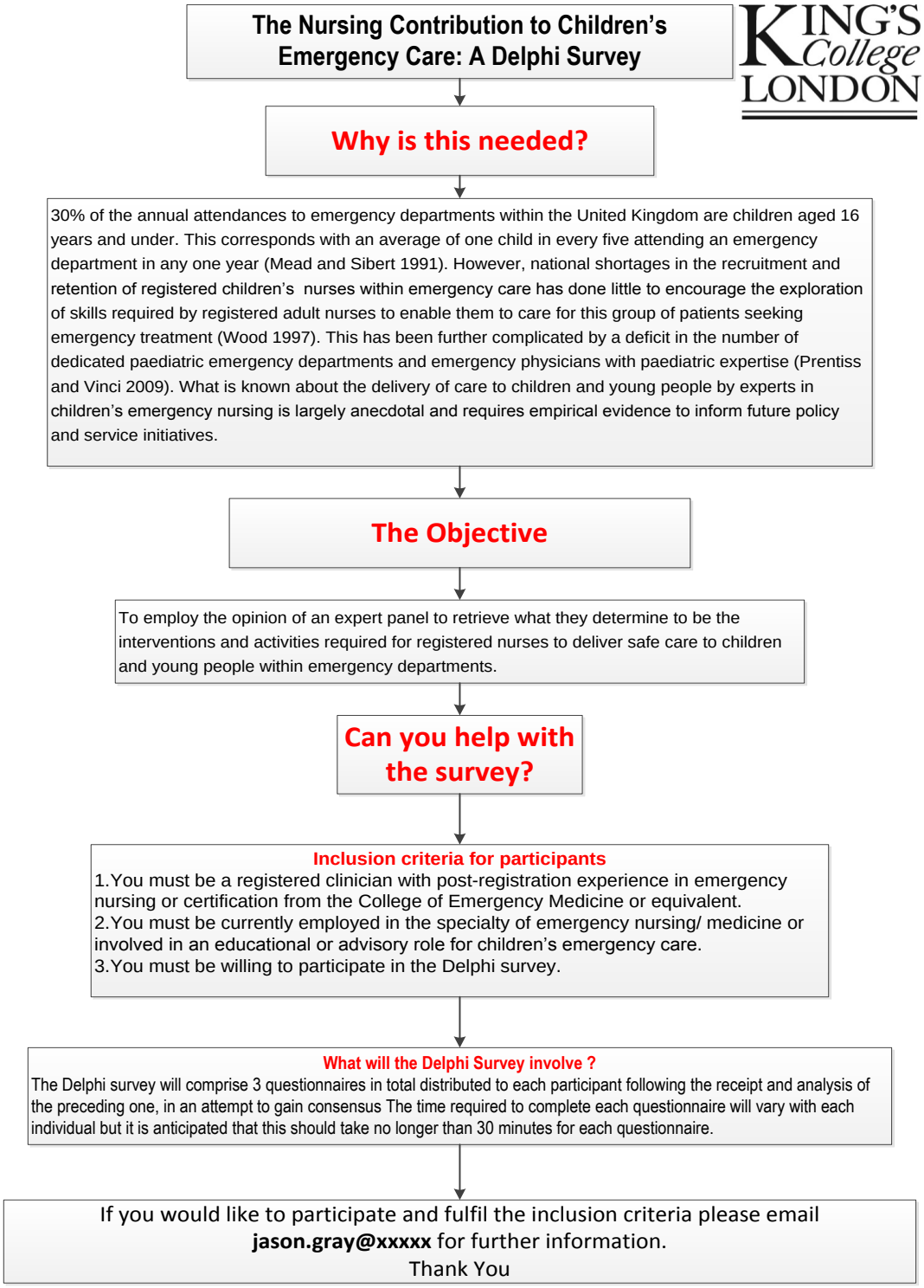
Appendix 1: Information Shared by Professional Advisor to Members of Professional Organisations



Appendix 2: Letter of Invitation for Delphi Survey.

Letter of Invitation

Dear Sir or Madam

Re: The nursing contribution to children's emergency care

As part of my Doctoral thesis at Kings College London I am undertaking a Delphi survey to explore the contribution made by registered nurses towards children within A & E Departments. Previous reports have been predominately anecdotal and the intention is to explore in greater detail the activities and interventions we as professionals expect of nurses working with children and young people within A & E Departments.

The inclusion criteria which I believe you may meet include:

1. Must be a registered clinician with post-registration experience in emergency nursing or certification from the College of Emergency Medicine or equivalent.
2. Must be currently employed in the specialty of emergency nursing/ medicine or involved in an educational or advisory role for children's emergency care.
3. Willing to participate in the Delphi Survey.

If you meet the inclusion criteria and are happy to participate in the Delphi survey it would be greatly appreciated if you could complete the attached consent form and return to jason.gray@xxxxx at your earliest convenience.

The Delphi survey will consist of 3 questionnaires distributed to each panelist following the receipt and analysis of the preceding one, in an attempt to gain consensus. Following receipt of the consent form, you will receive the first questionnaire via email which will include specific instructions to assist in its completion.

The time required to complete each questionnaire will vary with each individual but it is anticipated that this should take no longer than 30 minutes for each questionnaire. The study is seeking your expert opinion so there is no right or wrong answers and the results generated from this study will be made available to you at the end of my study.

It is imperative that you understand that your willingness to participate in this study is completely voluntary. In addition, any information provided during this study will remain strictly confidential and will only be accessible to the researcher. You will also not be identifiable in the findings when the results are

reported. You will be allocated a unique code during each round of the survey which will only be identifiable by the researcher and thus remain anonymous to other participants. The researcher will therefore be the only person who will be able to identify your answers. The return of each Delphi round will thus imply the ongoing consent to participate.

I sincerely hope you will agree to participate in what I believe to be a valuable study, however If you decide not to participate I thank you for your consideration in this matter. If you have any questions please email jason.gray@xxxxx or call 075xxxxxxxx

Thank you for your time and any contribution you can make to this study

Yours sincerely

Jason Gray
Doctorate in Healthcare Student

Appendix 3: Delphi Survey Consent Form

CONSENT FORM FOR PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet about the research.

Title of Study:

The Nursing Contribution to Children's Emergency Care: a Delphi Survey

King's College Research Ethics Committee Ref:PNM/11/12-41

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Please initial

- **I understand that if I decide at any time during the research that I no longer wish to participate in this project, I can notify the researchers involved and withdraw from it immediately without giving any reason. Furthermore, I understand that I will be able to withdraw my data up to 1st June 2012.** ☐

- **I consent to the processing of my personal information for the purposes explained to me. I understand that such information will be handled in accordance with the terms of the Data Protection Act 1998.** ☐

Participant's Statement:

I _____

agree that the research project named above has been explained to me to my satisfaction and I agree to take part in the study. I have read both the notes written above and the Information Sheet about the project, and understand what the research study involves.

Signed **Date**

Appendix 4: Delphi Survey Round One Questionnaire

1. Please list the activities and interventions of importance that registered nurses should be able to do when caring for children within A&E Departments (Maximum 15)

2. Please list what enables registered nurses to undertake these activities and interventions? (Maximum 7)

3. Please list what inhibits registered nurses from undertaking these activities and interventions? (Maximum 7)

Appendix 5: Demographic Information Sheet for Delphi Participants

DEMOGRAPHIC SHEET

Current employment

Name:

_____

Present Job Title:

_____

Employing organisation:

_____

Background details (please tick)

Male ☐

Female ☐

Please list your professional qualifications:

Please indicate how many years since your initial professional registration?

_____

Please indicate how many years' experience in A&E nursing/medicine since qualification:

_____

Thank you

Appendix 6: King's College Psychiatry, Nursing and Midwifery Research Ethics Subcommittee Approval

Research Ethics Office

[redacted]

Jason Gray

[redacted]

KING'S College LONDON

13 January 2012

Dear Jason

PNM/11/12-41 The Nursing contribution to Children's Emergency Care: A Delphi Survey.

Review Outcome: Full Approval

Thank you for sending in the amendments/clarifications requested to the above project. I am pleased to inform you that these meet the requirements of the PNM RESC and therefore that full approval is now granted with the following provisos:

1. Information Sheet - Pilot study: Please ensure you use the same font type throughout the Sheet.
2. Recruitment email: This may be too long in length. We recommend you consult the College's guidelines on submitting circular emails: http://www.kcl.ac.uk/onespace/it/email/lists/global/volunteers.html.

Please ensure that you follow all relevant guidance as laid out in the King's College London Guidelines on Good Practice in Academic Research (http://www.kcl.ac.uk/college/policyzone/index.php?id=247).

For your information ethical approval is granted until **13 January 2014**. If you need approval beyond this point you will need to apply for an extension to approval at least two weeks prior to this explaining why the extension is needed, (please note however that a full re-application will not be necessary unless the protocol has changed). You should also note that if your approval is for one year, you will not be sent a reminder when it is due to lapse.

Ethical approval is required to cover the duration of the research study, up to the conclusion of the research. The conclusion of the research is defined as the final date or event detailed in the study description section of your approved application form (usually the end of data collection when all work with human participants will have been completed), not the completion of data analysis or publication of the results. For projects that only involve the further analysis of pre-existing data, approval must cover any period during which the researcher will be accessing or evaluating individual sensitive and/or un-anonymised records. Note that after the point at which ethical approval for your study is no longer required due to the study being complete (as per the above definitions), you will still need to ensure all research data/records management and storage procedures agreed to as part of your application are adhered to and carried out accordingly.

If you do not start the project within three months of this letter please contact the Research Ethics Office.

Should you wish to make a modification to the project or request an extension to approval you will need approval for this and should follow the guidance relating to modifying approved applications: http://www.kcl.ac.uk/research/ethics/applicants/modifications.html
The circumstances where modification requests are required include the addition/removal of participant groups, additions/removal/changes to research methods, asking for additional data from

participants, extensions to the ethical approval period. Any proposed modifications should only be carried out once full approval for the modification request has been granted.

Any unforeseen ethical problems arising during the course of the project should be reported to the approving committee/panel. In the event of an untoward event or an adverse reaction a full report must be made to the Chair of the approving committee/review panel within one week of the incident.

Please would you also note that we may, for the purposes of audit, contact you from time to time to ascertain the status of your research.

If you have any query about any aspect of this ethical approval, please contact your panel/committee administrator in the first instance [http://www.kcl.ac.uk/research/ethics/contacts.html]. We wish you every success with this work.

With best wishes

Yours sincerely

Catherine Fieulleteau
Senior Research Ethics Officer

Research Ethics Office

[redacted]

KING'S College LONDON

Jason Gray

[redacted]

Dear Jason

PNM/12/13-11 The nursing contribution to children's emergency care: semi-structured interviews.

Review Outcome: Full Approval

Thank you for sending in the amendments/clarifications requested to the above project. I am pleased to inform you that these meet the requirements of the PNM RESC and therefore that full approval is now granted with the following provisos:

1. Submit a copy of permission letter from gatekeeper organisation to the Research Ethics Office once obtained.
2. All Information Sheets: Please put your name and contact details before the sentence that begins 'If this study has harmed you in any way...'. Only your supervisor's name and contact details should appear after this sentence.
3. Information Sheet for Participants: Please insert the correct reference number: PNM/12/13-11.

Note that you do not need to submit a response to the above provisos, however it is a condition of the approval granted by the PNM RESC that the provisos are carried out prior to the study commencing. If the provisos are not adhered to the approval granted by the PNM RESC would no longer be valid. Should you have any queries on this please do not hesitate to contact the Research Ethics Office.

Please ensure that you follow all relevant guidance as laid out in the King's College London Guidelines on Good Practice in Academic Research (http://www.kcl.ac.uk/college/policyzone/index.php?id=247).

For your information ethical approval is granted until **02 October 2013**. If you need approval beyond this point you will need to apply for an extension to approval at least two weeks prior to this explaining why the extension is needed, (please note however that a full re-application will not be necessary unless the protocol has changed). You should also note that if your approval is for one year, you will not be sent a reminder when it is due to lapse.

Ethical approval is required to cover the duration of the research study, up to the conclusion of the research. The conclusion of the research is defined as the final date or event detailed in the study description section of your approved application form (usually the end of data collection when all work with human participants will have been completed), not the completion of data analysis or publication of the results. For projects that only involve the further analysis of pre-existing data, approval must cover any period during which the researcher will be accessing or evaluating individual sensitive and/or un-anonymised records. Note that after the point at which ethical approval for your study is no longer required due to the study being complete (as per the above definitions), you will still need to ensure all research data/records management and storage procedures agreed to as part of your application are

adhered to and carried out accordingly.

If you do not start the project within three months of this letter please contact the Research Ethics Office.

Should you wish to make a modification to the project or request an extension to approval you will need approval for this and should follow the guidance relating to modifying approved applications: http://www.kcl.ac.uk/innovation/research/support/ethics/applications/modifications.aspx
The circumstances where modification requests are required include the addition/removal of participant groups, additions/removal/changes to research methods, asking for additional data from participants, extensions to the ethical approval period. Any proposed modifications should only be carried out once full approval for the modification request has been granted.

Any unforeseen ethical problems arising during the course of the project should be reported to the approving committee/panel. In the event of an untoward event or an adverse reaction a full report must be made to the Chair of the approving committee/review panel within one week of the incident.

Please would you also note that we may, for the purposes of audit, contact you from time to time to ascertain the status of your research.

If you have any query about any aspect of this ethical approval, please contact your panel/committee administrator in the first instance (http://www.kcl.ac.uk/innovation/research/support/ethics/contact.aspx). We wish you every success with this work.

With best wishes

Yours sincerely

Catherine Fieulleteau
Senior Research Ethics Officer

Cc: Dr Edward Purssell

Appendix 7: Delphi Survey Information Sheet for Participants

INFORMATION SHEET FOR PARTICIPANTS

REC Reference Number: PNM/11/12-41

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

The Nursing Contribution to Children's Emergency Care: a Delphi Survey

I would like to invite you to participate in this postgraduate research project. You should only participate if you want to; choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information.

Aim of the research and possible benefits:

This study aims to determine the interventions and activities required of registered nurses to enable them to care for children and young people safely within emergency department; in addition to determining the suitability of emergency departments for the delivery of opportunistic vaccinations for children. The findings will assist the researcher in clarifying the core interventions and activities to inform policies for the development of a nursing workforce trained in the delivery of safe care to children and young people within emergency departments.

Who you are recruiting:

All registered clinicians with post-registration experience in emergency nursing or certification from the College of Emergency Medicine or equivalent. Clinicians must also be currently employed in the specialty of emergency nursing/ medicine or involved in an educational or advisory role for children's emergency care.

Clinicians excluded from this study include nurses and doctors who have no experience or responsibility for the management of children and young people within emergency departments.

What will happen if you agree to take part?

Following receipt of the consent form, you will receive the first questionnaire two weeks later via email which will include specific instructions to assist in its completion. The Delphi survey will comprise 3 questionnaires in total distributed to each participant following the receipt and analysis of the preceding one, in an attempt to gain consensus The time required to complete each questionnaire will vary with each individual but it is anticipated that this should take no longer than 30 minutes for each questionnaire. The study is seeking your expert opinion so there is no right or wrong answers and the results generated from this study will be made available to you at the end of my study.

Confidentiality and Anonymity

It is imperative that you understand that your willingness to participate in this study is completely voluntary. In addition, any information provided during this study will remain strictly confidential and will only be accessible to the researcher. You will also not be identifiable in the findings when the results are reported. You will be allocated a unique code during each round of the survey which will only be identifiable by the researcher and thus remain anonymous to other participants. The researcher will therefore be the only person who will be able to identify your answers. The return of each Delphi round will thus imply the ongoing consent to participate.

Name and Contact details of the researcher

Jason Gray: jason.gray@xxxxxx

Phone: 075xxxxxxxx

It is up to you to decide whether to take part or not. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. In addition, if you decide to take part you are still free to withdraw at any time and without giving a reason. You may also withdraw any data/information you have already provided up until it is transcribed for use in the final report on 1st June 2012.

If this study has harmed you in any way you can contact King's College London using the details below for further advice and information:

Researcher: Jason Gray (jason.gray@xxxxxx)

Supervisor: Professor Alison While (alison.while@xxxxxx)

Appendix 8: Delphi Survey Round Two Questionnaire

Activities and Interventions of Nurses Caring for Children in Emergency Departments

KING'S College LONDON

Thank you for responding to the first round of my Delphi survey, the results of which have been collated for the second round to determine the importance of the results received.

Directions: This is not a test and there is no right or wrong answer. Please indicate for **EACH** of the following activities/interventions their importance in relation to the care of children and young people in emergency departments.

In PART 1: **Can you please complete by ticking the appropriate box and offering a score between 1 (least important) to 5 (most important).**

In PART 2: Please specify if you agree or disagree with the statements in relation to the enabling factors associated with activities and interventions: 1 (strongly disagree) to 5 (strongly agree)

In PART 3: Please specify if you agree or disagree with the statements in relation to the inhibiting factors associated with activities and interventions: 1 (strongly disagree) to 5 (strongly agree)

PART 1: The activities and interventions of nurses in A&E Departments

PART 1a. PHYSIOLOGICAL & PSYCHOLOGICAL DEVELOPMENT

Least important **Most important**

		1	2	3	4	5
1.	Complete a developmental assessment					
2.	Ensures the correct environment and distraction to support compliance and communication					
3.	Effectively communicates with children at various stages of development					
4.	Can instigate 'holding still' and 'restraint' for clinical procedures which are age appropriate.					

PART 1b. ASSESSING & RECORDING VITAL SIGNS

		1	2	3	4	5
1.	Is able to triage and initiate prioritisation for treatment					
2.	Able to record and interpret cardiovascular observations and relate these to the age of the child					
3.	Can complete neurological observations and recognise indications for recording these					

PART 1c. PAIN ASSESSMENT & MANAGEMENT

		1	2	3	4	5
1.	Can undertake and interpret pain assessment using age appropriate tools					
2.	Can implement distraction techniques and play for painful procedures					

PART 1d. MEDICINES MANAGEMENT

		1	2	3	4	5
1.	Can calculate common paediatric medications according to weight					
2.	Can administer medication safely via oral, IN, IV, SC, IM route					

PART 1e.CARE OF THE SICK & INJURED CHILD

		1	2	3	4	5
1.	Able to identify a sick or injured child using an ABCDE approach and act accordingly in response to abnormal findings					
2.	Implement Basic Life Support as indicated					
3.	Assist with Advanced Life Support Interventions					
4.	Complete a risk assessment for a child with a mental health presentation					
5.	Manage a child with an arterial/central line					

6.	Can undertake venepuncture and cannulation					
7.	Can insert intraosseous needle and know indications for such					
8.	Complete and interpret urinalysis and pregnancy tests.					
9.	Can recognise and manage common musculoskeletal injuries					
10.	Can apply Plaster of Paris for skeletal injuries					
11.	Can identify the indications for and instigate cervical inline immobilisation					
12.	Can manage minor wounds including the application of skin glue, steristrips and sutures					
13.	Can initiate oral rehydration therapy, NG feeds					
14.	Request radiological investigations					

PART 1f. FAMILY CENTRED CARE

		1	2	3	4	5
1.	Liaises appropriately with members of the multi-disciplinary team and primary care specialists					
2.	Can advocate on behalf of child & family					
3.	Can teach child & family the management of common illnesses and injuries					
4.	Can communicate and counsel child & family					
5.	Can retrieve/access information pertaining to immunisations.					
6.	Is familiar with the signs of child abuse and actions to be taken in the event of such					
7.	Is familiar with the rights of the child and their consent to treatment					

PART 2: Please specify if you agree or disagree with the statements in relation to the enabling factors.

1. Strongly disagree 2. Disagree 3. Undecided 4. Agree 5.Strongly Agree

PART 2: ENABLING FACTORS to nurses undertaking activities and interventions

Strongly disagree Strongly Agree

	EDUCATION & TRAINING	**1**	**2**	**3**	**4**	**5**
1.	Access to In-house training					
2.	Access to post registration education					
3.	Simulation exercises in the ED					
4.	Competency Based Assessments					

5.	Protected Study time					
6.	Mentorship/supervision from senior staff					
	QUALIFICATION & EXPERIENCE					
7.	RSCN/RC(CH) registration					
8.	Experience in caring for children					
	UNIT RELATED					
9.	Safe staffing levels					
10.	Separate area to manage children					
11.	Dedicated paediatric team for children					
12.	Age appropriate equipment					
13.	Clinical guidelines/policies available in ED					

PART 3: Please specify if you agree or disagree with the statements in relation to the inhibiting factors.

PART 3: INHIBITING FACTORS to nurses undertaking activities and interventions

Strongly disagree **Strongly Agree**

	EDUCATION & TRAINING	**1**	**2**	**3**	**4**	**5**
1.	Lack of training & facilities					
2.	Absence of protected study time					
3.	Lack of funding					
	QUALIFICATION & EXPERIENCE					
4.	Lack of paediatric experience & knowledge					
5.	Staff resistant to change					
	UNIT RELATED					
6.	Poor morale among staff					
7.	Inadequate staffing levels					
8.	Absence of clinical leadership					
9.	Unsuitable clinical environment to provide care					

Thank You

Appendix 9: Delphi Survey Round Two Cover Letter

Activities and Interventions of Nurses Caring for Children in Emergency Departments
Delphi Survey Round 2

KING'S College LONDON

28th June 2012

Re: Delphi Survey: Round 2

Dear Study Participant

Thank you for participating in round 1 of the Delphi survey examining the 'activities and interventions of nurses caring for children in A & E Departments'. I would now like your assistance with round 2 which I have attached. Can you please return the enclosed documents at the earliest opportunity in the stamped addressed envelope which I have enclosed for your convenience.

Please do not hesitate to contact me by email if you require any further information: jason.gray@xxxxx

Many thanks

Jason

Appendix 10: Delphi Survey Round Three Questionnaire

Activities and Interventions of Nurses Caring for Children in A&E Departments
Delphi Survey Round 3

KING'S College LONDON

Please reconsider your responses in the context of the feedback provided for the questions below which have not achieved consensus. If you wish to change your response, please place a 'tick' in the box which you feel best describes how important the activity/intervention is to enable nurses to care for children and young people in emergency departments.

Please specify the level of importance of the specified activities and interventions.

1	2	3	4	5

	PHYSIOLOGICAL & PSYCHLOGICAL DEVELOPMENT	Your response from round 2	Overall Median response from Round 2	Very Unimportant	Unimportant	Undecided	Important	Very Important
1.	Complete a developmental assessment	**3**	**3**					
2.	Can instigate 'holding still' and 'restraint' for clinical procedures which are age appropriate.	**5**	**4**					
	CARE OF THE SICK & INJURED CHILD							
3.	Complete a risk assessment for a child with a mental health presentation	**4**	**4**					
4.	Manage a child with an arterial/central line	**3**	**3**					
5.	Can undertake venepuncture and cannulation	**2**	**3**					
6.	Can insert intraosseous needle and know indications for such	**3**	**3**					
7.	Can recognise and manage common musculoskeletal injuries	**3**	**4**					
8.	Request radiological investigations	**3**	**3**					
	FAMILY CENTRED CARE							
9	Can retrieve/access information pertaining to immunisations.	**3**	**4**					

Please specify if you agree or disagree with the statements in relation to the enabling and inhibiting factors for activities and interventions.	1	2	3	4	5

	ENABLING FACTORS to nurses undertaking activities and interventions	Your response from round 2	Overall Median response from Round 2	Strongly disagree	Disagree	Undecided	Agree	Strongly Agree
1.	Protected Study Time	**3**	**4**					
2.	RSCN/RN(CH) registration	**3**	**4**					
3.	Dedicated paediatric team for children	**3**	**4**					
	INHIBITING FACTORS to nurses undertaking activities and interventions							
4.	Absence of protected study time	**3**	**4**					
5.	Poor morale among staff	**4**	**4**					

Thank You

Appendix 11: Delphi Survey Round Three Cover Letter

Activities and Interventions of Nurses Caring for Children in A&E Departments
Delphi Survey Round 3

KING'S College LONDON

18th July 2012

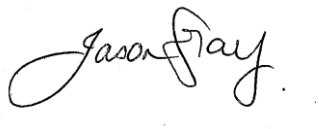
Dear Expert Panel Member

Thank you for returning the second round Delphi questionnaire. You will now find enclosed the third round Delphi questionnaire which consists of those research areas which have not yet reached consensus from the panel. To assist you in the completion of the third round you will find two additional columns which show your own individual response from Round 2 and the overall median response from panel members. These will appear as numbers and will correspond with the scale for that specific section.

The far columns, numbered 1-5 are blank and are provided as an opportunity for you to reconsider your response since Round 2. I would appreciate it if you would reconsider your original response and if you wish to change your response please do so by placing a 'tick' in the appropriate box. Please note that you do not have to change your original response if you do not wish to.

Once you have completed the questionnaire, please return it to me in the enclosed stamped addressed envelope.

Many thanks for your continued participation.



Jason

Appendix 12: Interview Schedule for RNs

REC Reference Number: PNM/12/13-11

Schedule for Semi-Structured Interview

Thank you for agreeing to participate in this interview exploring the nursing contribution to children's emergency care. This study forms part of a greater project incorporating a Delphi survey as part of my doctorate in Healthcare at King's College London. The purpose for undertaking the semi-structured interviews is to allow me to obtain the experiences of nurses who care for children and young people within A&E Departments or who are involved in an education or advisory role to emergency nursing.

The interview will be recorded to allow me to transcribe accurately the information provided. I would like to assure you at this point that you will remain completely anonymous and no records of the interview will be kept with your name on it.
A. Do you have any questions before we begin?
B. Can I first ask you to complete the demographic sheet?

The following open-ended questions will assist in directing the participant to discussion of the experience in caring for children and young people in A&E Departments.

1. What activities and interventions should registered nurses be competent to deliver when caring for children and young people within A & E Departments?

2. What do you think enables nurses to carry out these activities and interventions?

3. What do you think inhibits nurses from undertaking these activities and interventions?

End: Thank you again for your participation. I have no further questions. Do you have anything more you want to discuss or ask about before we finish the interview?
Debriefing: Time allowed following the end of recording.
Reflection time: What has been learned from this particular interview?
Document details regarding interpersonal interaction

Appendix 13: Interview Schedule for Parents/Carers

REC Reference Number: PNM/12/13-11

Schedule for semi-structured interview

Thank you for agreeing to participate in this interview exploring the nursing contribution to children's emergency care. This study forms part of a greater project incorporating a Delphi survey as part of my Doctorate in Healthcare at King's College London. The purpose for undertaking the semi-structured interviews is to allow me to obtain the experiences of parents and carers who receive care for their child within an A&E Departments.

The interview will be recorded to allow me to transcribe accurately the information provided. I would like to assure you at this point that you will remain completely anonymous and no records of the interview will be kept with your name on it.
A. Do you have any questions before we begin?
B. Can I first ask you to complete the demographic sheet?

The following open-ended questions will assist in directing the participant to discussion of the experience in receiving care in an A&E Departments.

1. What activities and interventions should registered nurses be competent to deliver when caring for children within A & E Departments?

2. What do you think enables nurses to carry out these activities and interventions?

3. What do you think inhibits nurses from undertaking these activities and interventions?

End: Thank you again for your participation. I have no further questions. Do you have anything more you want to discuss or ask about before we finish the interview?
Debriefing: Time allowed following the end of recording.
Reflection time: What has been learned from this particular interview?
Document details regarding interpersonal interaction

Appendix 14: Participant Information Sheet for Semi-Structured Interviews with RNs

INFORMATION SHEET FOR PARTICIPANTS

REC Reference Number: PNM/12/13-11

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

The Nursing Contribution to Children's Emergency Care: Semi-structured interviews

I would like to invite you to participate in this post graduate research project. This study has been reviewed by the Psychiatry, Nursing and Midwifery Research Ethics Subcommittee. You should only participate if you want to; choosing not to take part will not disadvantage you in any way. Before you decide if you want to take part, it is important for you to understand why the research is being done and what participation involves. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information.

Aims of the research and possible benefits

The study aims to identify the activities and interventions undertaken by registered nurses caring for children and young people within A&E Department.

Who I am recruiting

Registered nurses with post-registration experience in emergency nursing or involved in an educational or advisory role for emergency nursing. Nurses excluded from this study are those who have no experience or responsibility for the management of children within A&E Departments.

What will happen if you agree to take part?

You will be invited to participate in an interview lasting approximately 30 minutes at a time and place convenient to you. The interviewer will ask a number of questions regarding the care of children and young people in emergency departments. You will be required to draw on your own experiences and views in answer to the questions. Your response will be tape recorded. During the tape recording you will be referred to as a letter e.g. participant A. You may have access to the findings of this study upon request. There are several areas which will be discussed, these are;

- The activities and interventions undertaken by nurses caring for children in emergency departments.
- Influencing factors enabling nurses to carry out these activities and interventions.
- Factors inhibiting nurses from carrying out these activities and interventions.

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Confidentiality

It is imperative that you understand that your willingness to participate in this study is completely voluntary. Any information provided during this study will remain strictly confidential and will only be accessible to the researcher. You will not be identifiable in the findings when the results are reported. You will be allocated a

unique code on commencing the interview which will only be identifiable by the researcher. You will remain anonymous within the final report. Due to the nature of the research, extracts may be used in the final report. All recordings will be destroyed after completion of the research. The disclosure of information will only occur if I am informed of harmful activity. If this occurs, your module leader will be informed.

Name and Contact details of the researcher

Jason Gray: jason.gray@xxxxx

It is up to you to decide whether to take part or not. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. You may also withdraw any data/information you have already provided up until it is transcribed for use in the final report on March 2013. Participation or refusal to participate will have no influence on your current/ future professional development or academic progress.

If this study has harmed you in any way you can contact King's College London using the details below for further advice and information:
Researcher: Jason gray (jason.gray@xxxxx)
Supervisor: Dr Edward Purssell (edward.purssell@xxxxx)
University address.
Tel: 020 7xxx xxx

Appendix 15: Participant Information Sheet for Semi-Structured Interviews with Parents/Carers

Trust Logo
xxxxx
xxxxxx
P: 0201 xxxx
F: 0201 xxxx

INFORMATION SHEET FOR PARTICIPANTS

REC Reference Number: 13/NW/0221

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

The Nursing Contribution to Children's Emergency Care: Semi-structured interviews

You are invited to take part in a research study during your visit to the Children's Emergency Department. The aim is for us to find out what activities and interventions nurses undertake when caring for your child within the Children's Emergency Department. Please take time to read this information sheet carefully before you decide to take part in the study. Ask us if there is anything that is not clear or if you would like more information.

What will happen to me if I take part?

If you are happy to participate in the study please inform your nurse or doctor. We will then ask you to attend an interview while you are still in the children's emergency department or following transfer to the children's ward. The interview will be voice recorded and done in a private room on the unit or ward and should take no longer than 30 minute to complete. The interview will only be undertaken if you are expected to stay in the Children's Emergency Department for a period of observation or admitted to a ward. We will not delay any of your treatment or discharge at any time.

Why have I been chosen?

We want to interview parents and carers that have experience using the Children's A & E Department.

Do I have to take part?

No, taking part is voluntary. If you do not want to take part or if you decide you would like to drop out of the study at any point you do not have to give a reason. There will be no pressure on you to try and change your mind. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive.

What are the possible benefits of taking part?

There are no immediate benefits to you taking part. This research may lead to improved training for nurses at some point in the future.

Will my taking part in the study be kept confidential?

All information you give us will be confidential and used for the purposes of this study only. The information will be used in a way that will not allow you to be identified. You will be allocated a unique code before the interview begins and this will only be identifiable to the researcher. You will not be named or otherwise identified in any study publication.

Who has reviewed the study?

This research protocol has been extensively reviewed by the National Research Ethics Committee to confirm that all conditions with respect to patients and families are respected.

Name and Contact details of the researcher

Jason Gray: jason.gray@xxxxxx

It is up to you to decide whether to take part or not. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. This will not affect your current treatment or future visits to the Children's Emergency Department.

If this study has harmed you in any way you can contact King's College London using the details below for further advice and information:

Supervisor: Professor Alison While (alison.while@xxxxxx)
Department & School address
Tel: 020 xxx xxx

Appendix 16: National Research Ethics Service Committee North West-Liverpool East approval

NHS
Health Research Authority

National Research Ethics Service

NRES Committee North West - Liverpool East

[redacted]

26 March 2013

Mr Jason Gray

[redacted]

Dear Mr Gray

Study title:	**The Nursing Contribution to Children's Emergency Care**
REC reference:	**13/NW/0221**
IRAS project ID:	**116756**

Thank you for your email of 25 March 2013, responding to the Proportionate Review Sub-Committee's request for changes to the documentation for the above study.

The revised documentation has been reviewed and approved by the Chair.

We plan to publish your research summary wording for the above study on the NRES website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to withhold permission to publish, please contact the Co-ordinator Miss Helen Penistone, nrescommittee.northwest-liverpooleast@nhs.net.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. The REC will acknowledge receipt and provide a final list of the approved documentation for the study, which can be made available to host organisations to facilitate their permission for the study. Failure to provide the final versions to the REC may cause delay in obtaining permissions.

Approved documents

The documents reviewed and approved by the Committee are:

Document	*Version*	*Date*
REC application		06 March 2013
Protocol	1.0	26 February 2013
Investigator CV: Jason Gray		12 March 2013
Investigator CV: Alison While		
Investigator CV: Edward Purssell		
Participant Information Sheet	5.0	26 March 2013
Participant Consent Form	5.0	26 March 2013
Interview Schedules/Topic Guides		
Evidence of insurance or indemnity		01 August 2012
Response to Request for Further Information from Jason Gray		26 March 2013

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

Appendix 17: Consent for RNs in Research Study.

CONSENT FORM FOR PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and listened to an explanation about the research.

Title of Study: The Nursing Contribution to Children's Emergency Care: Semi-structured interviews

King's College Research Ethics Committee Ref: PNM/12/13-11

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Please initial

- **I understand that if I decide at any time during the research that I no longer wish to participate in this project, I can notify the researchers involved and withdraw from it immediately without giving any reason. Furthermore, I understand that I will be able to withdraw my data up to the point of publication by March 2013.** ☐
- **I consent to the processing of my personal information for the purposes explained to me. I understand that such information will be handled in accordance with the terms of the Data Protection Act 1998.** ☐
- **The information you have submitted will be published as a report and you will be sent a copy. Please note that confidentiality and anonymity will be maintained and it will not be possible to identify you from any publications.** ☐
- **I consent to my interview being recorded.** ☐

Participant's Statement:

I _____

agree that the research project named above has been explained to me to my satisfaction and I agree to take part in the study. I have read both the notes written above and the Information Sheet about the project, and understand what the research study involves.

Signed **Date**

Investigator's Statement:

I _____

Confirm that I have carefully explained the nature, demands and any foreseeable risks (where applicable) of the proposed research to the participant.

Signed Date

Appendix 18: Consent Form for Parents/Carers in Research Study.

CONSENT FORM FOR PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and listened to an explanation about the research.

Title of Study: The Nursing Contribution to Children's Emergency Care: Semi-structured interviews

King's College Research Ethics Committee Ref: *13/NW/0221*

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Please initial

- **I understand that if I decide at any time during the research that I no longer wish to participate in this project, I can notify the researchers involved and withdraw from it immediately without giving any reason. Furthermore, I understand that I will be able to withdraw my data up to the point of publication by March 2013.** ☐
- **I consent to the processing of my personal information for the purposes explained to me. I understand that such information will be handled in accordance with the terms of the Data Protection Act 1998.** ☐
- **The information you have submitted will be published as a report and you will be sent a copy. Please note that confidentiality and anonymity will be maintained and it will not be possible to identify you from any publications.** ☐
- **I consent to my interview being recorded.** ☐

Participant's Statement:

I _____

agree that the research project named above has been explained to me to my satisfaction and I agree to take part in the study. I have read both the notes written above and the Information Sheet about the project, and understand what the research study involves.

Signed Date

Investigator's Statement:

I _____

Confirm that I have carefully explained the nature, demands and any foreseeable risks (where applicable) of the proposed research to the participant.

Signed Date

Appendix 19: Inventory of Activities and Interventions

	Activities and Interventions
1	Ensures the correct environment for children and their family
2	Can triage and initiate prioritisation for treatment
3	Can record and interpret cardiovascular observations and relate these to the age of the child
4	Can complete neurological observations and recognises indications for recording these
5	Can administer medication safely via oral, IN, IV, SC, IM route
6	Can identify a sick or injured child using an ABCDE approach and act accordingly in response to abnormal findings
7	Can initiate Paediatric Basic Life Support as indicated
8	Can assist with Advanced Life Support interventions
9	Can advocate on behalf of child and family
10	Is familiar with the signs of child abuse and actions to be taken in the event of such
11	Can effectively communicate with children at various stages of development
12	Can calculate common paediatric medications according to weight
13	Can identify the indications for and instigate cervical inline immobilisation
14	Is familiar with the rights of the child and their consent to treatment
15	Can implement distraction techniques and play
16	Can manage minor wounds including the application of skin glue, steri-strips and sutures
17	Can teach child and family the management of common illnesses and injuries
18	Can undertake and interpret pain assessment using age appropriate tools
19	Liaises appropriately with members of the multi-disciplinary team (MDT) and primary care specialists
20	Can initiate oral rehydration therapy (ORT), Nasogastric (NG) feeds
21	Can apply Plaster of Paris (POP) for skeletal injuries
22	Can communicate and counsel child and family
23	Can instigate ‘holding still’ and ‘restraint’ for clinical procedures which are age appropriate
24	Can recognise and manage common musculoskeletal injuries